HITACHI

PA

No. 0039

35TX10B/CZ41
31UX5B/CY45
31CX4B/CY44
27UX5B/C745
27CX4B/C744
27CX3B/C743

SERVICE MANUAL

NTSC A3LXU CHASSIS

R/C: CLU-851GR
CLU-692GR
CLU-691GR

CAUTION: Before servicing this chassis, it is important that the service technician read the "Safety Precautions" and "Product Safety Notices" in this Service Manual.

This television receiver will display television Closed Captioning (CC or ☐) in accordance with paragraph 15.119 of the FCC rules.

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SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

SOLID STATE COLOR TELEVISION

AUGUST 1994

HHEA - MANUFACTURING DIVISION

SAFETY PRECAUTIONS

NOTICE: Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis or picture tube.

WARNING: Since the chassis of this receiver is connected to one side of the AC power supply during operation, whenever the receiver is plugged in, service should not be attempted by anyone unfamiliar with the precautions necessary when working on this type of receiver.

The following precautions should be observed:

1. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn. People not so equipped should be kept away from the picture tube while handling.
2. When service is required, an isolation transformer should be inserted between power line and the receiver before any service is performed on a "HOT" chassis receiver.
3. When replacing a chassis in the receiver, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistors, capacitors, etc.
4. When service is required, observe the original lead dress in the high voltage circuitry area.
5. Always use the manufacturer's replacement components. Critical components as indicated on the circuit diagram should not be replaced by another manufacturer's. Furthermore, where a short circuit has occurred, replace those components that indicate evidence of overheating.
6. Before returning a serviced receiver to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the receiver by the manufacturer has become defective, or inadvertently defeated during servicing.

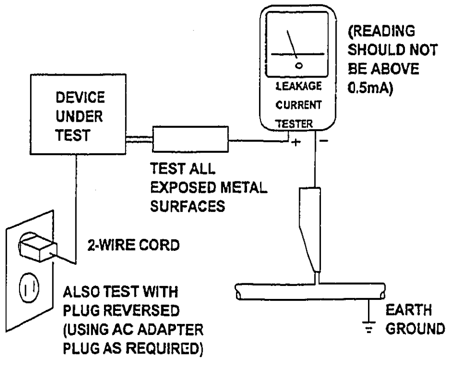
Therefore, the following checks should be performed for the continued protection of the customer and service technician.

Leakage Current Cold Check

With the AC plug removed from the 120V AC 60Hz source, place a jumper across the two plug prongs. Turn the AC power switch ON using an insulation tester (DC500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (antennas, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis should have a minimum resistor reading of 0.24MΩ and a maximum resistor reading of 5.2MΩ. Any resistance value below or above this range indicates an abnormality which requires corrective action. Exposed metal part not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into an AC 120V 60Hz outlet (do not use an isolation transformer for this check). Turn the AC power ON. Using a "leakage Current Tester (Simpson's Model 229 or equivalent)", measure for current from all exposed metal parts of the cabinet (antennas, screwheads, overlays, control shafts, etc.) particularly any exposed metal part having a return path to the chassis or to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.


(READING SHOULD NOT BE ABOVE 0.5mA)
LEAKAGE CURRENT TESTER
DEVICE UNDER TEST
+
-
TEST ALL EXPOSED METAL SURFACES
2-WIRE CORD
ALSO TEST WITH PLUG REVERSED (USING AC ADAPTER PLUG AS REQUIRED)
EARTH GROUND

AC LEAKAGE TEST

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE RECEIVER TO THE CUSTOMER.

High Voltage

This receiver is provided with a hold down circuit for clearly indicating that voltage has increased in excess of a predetermined value. Comply with all notes described in this Service Manual regarding this hold down circuit when servicing, so that this hold down circuit is operated correctly.

Serviceman Warning

With minimum BRIGHTNESS and CONTRAST, the operating high voltage in this receiver is lower than 37.0kV. In case any component having influence on the high voltage is replaced, confirm that high voltage with minimum BRIGHTNESS and CONTRAST is lower than 37.0kV. To measure high voltage use a high impedance High Voltage Meter. Connect (-) to chassis earth and (+) to the CPT Anode button (See the following connection diagram).

NOTE: Turn the power switch OFF without fail before the connection to the Anode button is made.

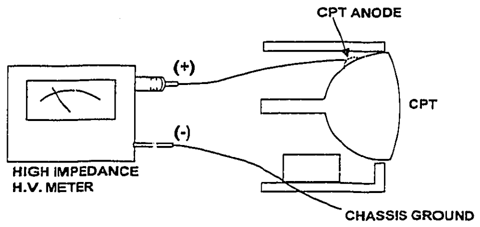
PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in HITACHI television receivers have special safety related characteristics. These are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacements parts which have these special safety characteristics are identified in this Model Service Manual.

Electrical components having such features are identified with an ⚠ mark in the schematics and parts list in this Model Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the HITACHI recommended replacement one, shown in the parts list in this Model Service Manual, may create shock, fire, X-Radiation, or other hazards.

Production Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current HITACHI Service Manual. A subscription to, or additional copies of HITACHI Service Manual may be obtained at a nominal charge from HITACHI SALES CORPORATION.



X-Radiation

TUBE: The primary source of X-Radiation in this receiver is the picture tube. The tube utilized in this chassis is specially constructed to limit X-Radiation emission. For continued X-Radiation protection, the replacement tube must be the same type as the original HITACHI approved type.

When troubleshooting and making test measurements in a receiver with an excessive high voltage problem, avoid coming unnecessarily close to the picture tube and the high voltage component.

Do not operate the chassis longer than is necessary to locate the cause of the excessive voltage.

This Service Manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the product and its safety. Consumers should not risk trying to do the necessary repairs and should instead refer to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm
(California Health and Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components with lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

SAFETY NOTICE
USE ISOLATION TRANSFORMER WHEN SERVICING

Components having special safety characteristics are identified by ⚠ on the parts list in this Model Service Manual and its supplements and bulletins. Before servicing this, it is important that the service technician read and follow the "Safety Precautions" and the "Product Safety Notices" in this Service Manual.

For continued X-Radiation protection, replace picture tube with original type or Hitachi equivalent type.

POWER SOURCE

This television receiver is designed to operate on 120 Volts/60Hz, AC house current. Insert the power cord into a 120 Volts/60Hz outlet.

NEVER CONNECT THE TV TO OTHER THAN THE SPECIFIED VOLTAGE OR TO DIRECT CURRENT.

Use of this TV set in 50 Hz areas will not harm the TV set, However, it will cause the clock display to run slower. Consult service personnel if you move to an area where the power supply frequency is 50 Hz.

CLOCK	60Hz	50Hz
D022	Install	Delete

TECHNICAL SPECIFICATIONS

POWER RATINGS

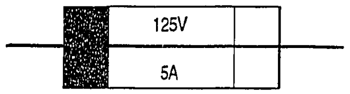
35TX10B/CZ41	180 watts
31UX5B/CY45	180 watts
31CX4B/CY44	180 watts
27UX5B/C745	155 watts
27CX4B/C744	155 watts
27CX3B/C743	155 watts

COLOR PICTURE TUBE

35TX10B/CZ41	A89AEJ15X01
31UX5B/CY45	M78JUA165X
31CX4B/CY44	A78LCU30X
27UX5B/C745	M68JUA168X
27CX4B/C744	A68KSA30X
27CX3B/C743	A68KSA30X

CAUTION

The following symbol near the fuse indicates fast operating fuse (to be replaced). Fuse ratings appear within the symbol.
Example:



F901

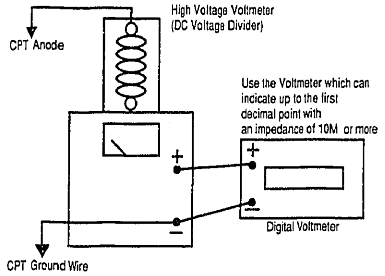
The rating of fuse F901 is 5.0A-125V.
Replace with the same type fuse for continued protection against fire.

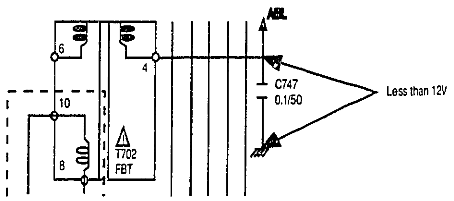
TECHNICAL CAUTIONS

High Voltage Limiter Circuit Operation Check and Overvoltage Protection Circuit Operation Check

Adjustment Preparation

1. Connect a High Voltage Voltmeter between CPT Anode terminal (Anode capside) and Ground. (TP701)
2. Set the AC input voltage to 120 +/- 3V.
3. Receive Circle Pattern or Broadcast Signal and set "BRIGHTNESS" and "CONTRAST" to maximum. Adjust the SCREEN VR and SUB-BRIGHTNESS VR (R340) so that Beam Current is IB ± 0.1 mA. (The voltage at ABL terminal (C747) should be 12V or less.)


High Voltage Voltmeter
(DC Voltage Divider)
CPT Anode
Use the Voltmeter which can indicate up to the first decimal point with an impedance of 10M or more
+
−
Digital Voltmeter
CPT Ground Wire


ABL
6
4
10
8
T702
FBT
C747
0.1/50
Less than 12V

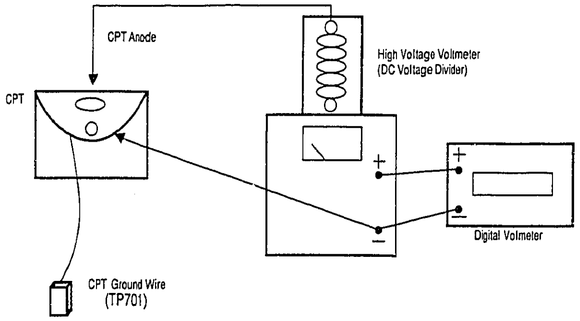
Adjustment Procedure

1. Check that the normal High Voltage is EHT ±1KV.

CHASSIS	EHT	IB±0.1mA	E1 (KV)
CZ41	30.2KV	1.8mA	35.5KV
CY44, CY45	29.2KV	1.65mA	34.0KV
C743, C744, C745	28.0KV	1.5mA	33.0KV

Adjustment Preparation

4. Set AC input voltage to 100 ± 5V. Short circuit both ends of R903.


CPT Anode
CPT
High Voltage Voltmeter
(DC Voltage Divider)
+
−
Digital Voltmeter
CPT Ground Wire
(TP701)

Use the voltmeter impedance 10MΩ or more with indication to the first decimal place.

Adjustment Procedure

2. Keep CONTRAST, BRIGHTNESS, and SCREEN VR as in item (3). Increase AC input voltage gradually and check that the picture disappears when high voltage is E1. Immediately after checking that it disappears, turn OFF the set switch. Remove adjustment Jig and High Voltage Voltmeter. When connecting or removing High Voltage Voltmeter to or from Anode cap, be sure to turn OFF the switch of the set. Also, be sure to perform it after the chassis discharge of residual high voltage, because the high voltage of CPT Anode may be left.

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Refer to CHASSIS SERVICE MANUAL PA NO. 0040 for additional technical information.

Note:

1. MAIN CHASSIS ADJUSTMENT is done with precision equipment. Readjustment is only recommended if the service technician replaced a defective component related to the circuit.
2. COMMON SERVICE ADJUSTMENT is recommended for the service technician after final troubleshooting and repair is done. Quick check and fine tuning is advisable to verify that the problem is eliminated.

1. CHASSIS ADJUSTMENT

1-1. IF ADJUSTMENT

1-1-1. AGC Coarse Adjustment (R202)

Set AGC adjustment VR (R202) to mechanical center.

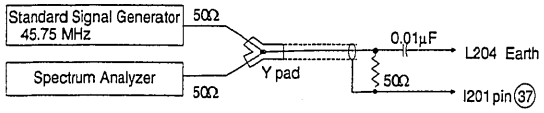
1-1-2. VCO Adjustment (L204)(First Method)

Adjustment Preparation

(1) Apply 9.0 ± 0.1V to I201 pin ⑭.

(2) Connect I201 pin ② to GND.

(3) Connect the following jig and pick up VCO oscillation leakage voltage.


Standard Signal Generator
45.75 MHz
50Ω
Spectrum Analyzer
50Ω
Y pad
0.01μF
50Ω
L204 Earth
I201 pin ㊲

Adjustment Procedure

(1) Adjust L204 so that VCO frequency detected by Spectrum Analyzer is 45.75MHz $^{+0}_{-50}$ KHz. (Match the output level of Standard Signal Generator to the level of VCO oscillation leakage voltage and adjust L204 to take 0 beat.)

Note: Perform this adjustment after VCO frequency is stabilized.

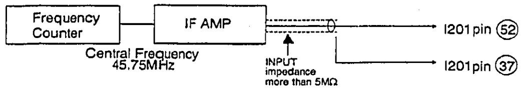
1-1-2. VCO Adjustment (L204) (Second Method)

Adjustment Preparation

(1) Apply 9.0 ± 0.1V to I201 pin ⑭.

(2) Connect I201 pin ② to GND.

(3) Connect the following jig and pick up VCO oscillation leakage voltage.


Frequency Counter
IF AMP
Central Frequency
45.75MHz
INPUT impedance more than 5MΩ
I201 pin ㊾
I201 pin ㊲

Adjustment Procedure

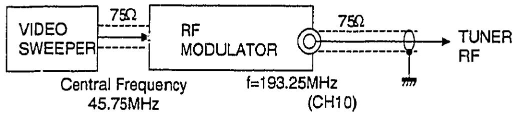
(1) Adjust L204 so that the reading of Frequency Counter is 45.75MHz $^{+0}_{-50}$ KHz.

Note: Perform this adjustment after VCO frequency is stabilized.

1-1-3. IF Overall Waveform Adjustment

Adjustment Preparation

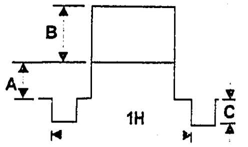
(1) Connect signal as follows:


VIDEO SWEEPER
75Ω
RF MODULATOR
75Ω
TUNER RF
Central Frequency
45.75MHz
f=193.25MHz
(CH10)

Marks 0.2 MHz (CH10)
1 MHz
2 MHz
3.6 MHz

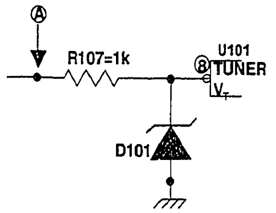
(Output level 91 ± 3 dBμ (50Ω load Modulation 60 - 70%)

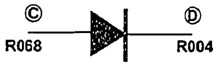
(2) Connect Oscilloscope to Q203 Ⓔ Emitter (TP-12).
Check the signal at TP-12 as follows:



A: Set up level
B: Sweep signal level
C: Sync. level

(3) Add the following voltage:
(1) I201 pin ⑭: +B (9V)
(2) I001 pin ⑫: +B (5V)
(3) TUNER VTi point Ⓐ: 42V
(4) Connect a diode (1S2076, 1SS270TA) to: Ⓒ ~ Ⓓ


Ⓐ
R107=1k
U101
⑧ TUNER
V_T
D101

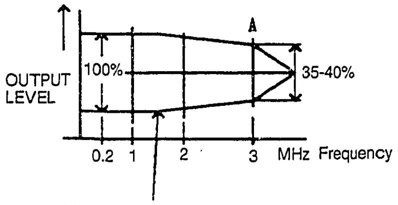


(The other side of I101)

(5) Initialize memory*
(6) Receive Color Bar Signal.

Adjustment Procedure

(1) Adjust TUNER IFT coil so that the output level of 0.2MHz is reference level (100%) and 3.6MHz level is 35% - 40%. (At this time, do not turn TUNER IFT coil more than 1 turn.)



Check that 1MHz~2MHz level is 70%~100%.

***Note:** Refer to item **1-1-6. Initial Turn ON Procedure.**

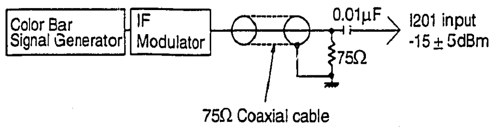
1-1-4. AFS Discrimination Adjustment (L205)

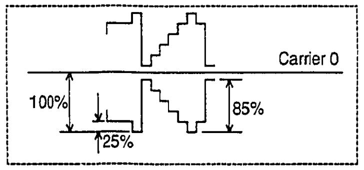
Adjustment Preparation

(1) Input Signal: Between X103 SAW FILTER input and Earth. (R108 both ends)

(2) Apply 9.0 ± 0.1V to I201 pin ⑭.

(3) Connect a DC Voltmeter (internal impedance 1M ohm or more) to AFS output terminal. (I201 pin ㊼)


Color Bar Signal Generator
IF Modulator
0.01μF
75Ω
I201 input
-15 ± 5dBm
75Ω Coaxial cable


Carrier 0
100%
85%
25%

Adjustment Procedure

(1) Turn L205 and check that DC Voltmeter connected as above varies from under 0.5 V to over 8.5V.

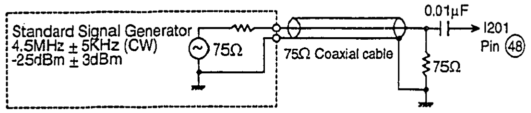
(2) Adjust L205 so that the DC Voltmeter is 6.5 ± 0.5V at the intermediate point of the core which is changing voltage rapidly in (1) above.

Note: After this adjustment is finished, perform item No. **1-1-2. VCO Adjustment Check.** If it is deviated, adjust to regular adjusting point and check again the subsequent adjustments.

1-1-5. Sound Discrimination Adjustment (L202)

Adjustment Preparation

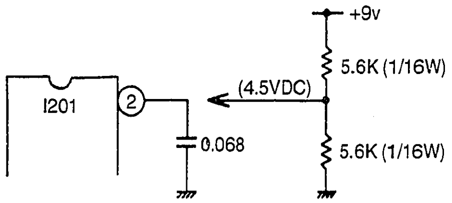
(1) Input Signal: Apply the following signal to I201 pin ㊽.


Standard Signal Generator
4.5MHz ± 5KHz (CW)
-25dBm ± 3dBm
75Ω
75Ω Coaxial cable
0.01μF
75Ω
I201 Pin ㊽

(2) Apply DC Voltage 9.0 ± 0.1V to I201 pin ⑭.

(3) Connect a Voltmeter between Q201 Emitter and Earth.

(4) Apply the following Voltage to I201 pin ②.


+9v
5.6K (1/16W)
(4.5VDC)
I201
②
0.068
5.6K (1/16W)

(5) Short-Circuit R201 both end (Tuner AGC Terminal to GND).

Adjustment Procedure

(1) Adjust L202 so that the reading of DC Voltmeter is 3.5 ± 0.3V.

(2) After adjusting, release the jig above (4) and (5).

1-1-6. VCO For OSD Adjustment.

This chassis starts in initial turn ON and AUTO demonstration mode before memory initialize. So memory initialize should be done according to next procedure before adjustment start.

Initial Turn ON Procedure

(1) Supply AC power. TV Set is turned ON.

(2) Turn OFF the set using power switch (S00I). Remo-Con not used.

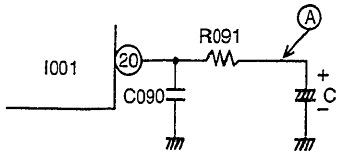
(3) Turn ON the set again.

(4) Memory initialize (see item **1-4. Memory Initialize**) should be done.

Adjustment Preparation

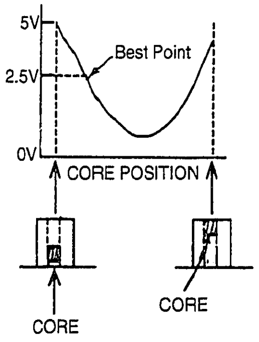
(1) Receive Color Bar or Circle Pattern Signal.

(2) Connect a DC Voltmeter to point Ⓐ.


Ⓐ
I001
⑳
R091
C090
C093

Adjustment Procedure

(1) Adjust L010 so that the Voltmeter is 2.5 ± 0.2V.



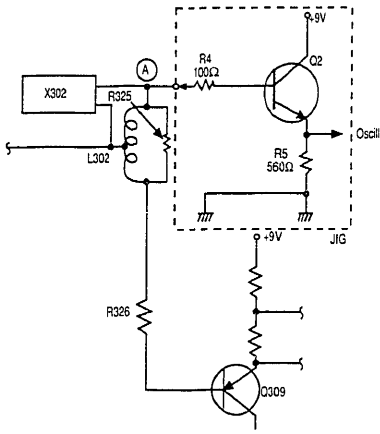
1-2. COMB FILTER ADJUSTMENT (1)

Adjustment Preparation

(1) Adjust the VR(R323, R32E, R333) to center position.

(2) Receive Color Bar Signal or Green Single Color Using below methods (I) and (II).
(I) From Video Input
(II) Ant. Input: the range of signal strength must be 65dBm to 80dBm(75 dBm is standard).

(3) Connect the jig (shown below) to point Ⓐ.

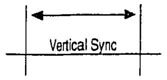

+9V
Ⓐ
R4
100Ω
Q2
X302
R325
L302
Oscilloscope
R5
560Ω
+9V
JIG
R326
Q309

Adjustment Procedure

(1) Turn R323 so that the sub-carrier component becomes minimum.

(2) Then turn L302 so that the sub-carrier component becomes minimum.

Note: Sub-carrier component waveform shows below point.


Vertical Sync

(3) When Residual Chroma Level does not become less than 20mVp-p repeat items (1) and (2).

Remarks:

(1) Use the probe of 10:1.

(2) Adjust the range of Oscilloscope to 20mV/div.

(3) Residual Chroma Level should be less than 20mVp-p.

(4) Connect the jig and P.W.B by lead wire of minimum length, to prevent a defective oscillation.

(5) Adjustment should be done after a certain time (more than 10 sec) after power ON.

1-2. COMB FILTER ADJUSTMENT(2)

Adjustment Preparation

(1) Connect an Oscilloscope between Q30C Emitter and Earth.

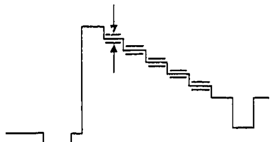
Adjustment Procedure

(1) Turn R32E so that the sub-carrier component becomes minimum.

(2) Then turn R333 so that sub-carrier component becomes minimum.

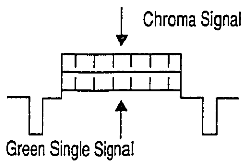
(3) When item (2) is finished, turn R32E again so that the sub-carrier component becomes minimum.

(4) When Residual Chroma Level does not become less than 15mVp-p, repeat items (1) and (2).



Color Bar Signal

Remarks:
(1) Adjust the range of Oscilloscope to 50mV/div.
(2) Residual Chroma Signal Level should be less than15mVp-p.
Note: Chroma Signal Level shows below point.



1-3. DEFLECTION CIRCUIT PICTURE ADJUSTMENT OPERATION CHECK

1-3-1. Vertical Size Adjustment (R62A)

Adjustment Preparation
(1) Receive Circle Pattern Signal.
(2) Set "CONTRAST" to maximum and "BRIGHTNESS" to the center.

Adjustment Procedure
(1) Adjust Vertical Size Adjustment VR (R62A) so that the inner circle of Circle Pattern becomes in contact with the top and bottom of the screen.

1-3-2. Side Pin Distortion Coarse Adjustment (R752)

Adjustment Preparation
(1) Receive Circle Pattern Signal.
(2) Set "CONTRAST" to maximum and "BRIGHTNESS" to the center.

Adjustment Procedure
(1) Vary R752 so that the right and left vertical lines are straight.

1-3-3. Horizontal Size Adjustment (R755), Horizontal Center Adjustment (R704) and Horizontal Size Correction Adjustment (R775)

Adjustment Preparation
(1) Receive Circle Pattern Signal.
(2) Set "CONTRAST" to maximum and "BRIGHTNESS" to the center.

Adjustment Procedure
(1) Set the R775 at the counterclockwise end.
(2) Vary R755 so that the horizontal size markers at the right and left end are 1.0 - 1.0 on the average.
(3) Vary R775 so that the horizontal size markers at right and left are 1.5 -1.5 on the average.
(4) Vary R704 so that the difference of the horizontal size markers at the right and left end are within 1.5.

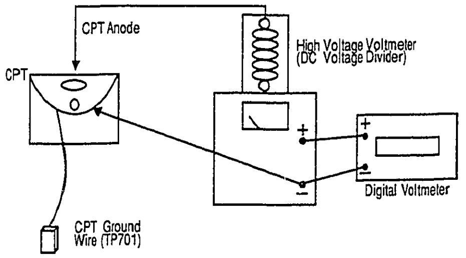
1-3-4. High Voltage Limiter Circuit Operation Check and Overvoltage Protection Circuit Operation Check

Adjustment Preparation
(1) Connect a High Voltage Voltmeter between CPT Anode terminal (Anode cap side) and the Ground (TP701).
(2) Set AC input voltage to 120 ± 3V.
(3) Receive Circle Pattern and set "BRIGHTNESS" and "CONTRAST to maximum. Adjust SCREEN VR and SUB-BRIGHTNESS VR(R340) so that Beam Current is I_B ± 0.1mA.
(The voltage of ABL terminal - C747 both ends should be 12V or less)

Adjustment Procedure
(1) Check that the normal High Voltage is E_{HT} ± 1kv.

CHASSIS	EHT	IB ±0.1 mA	E1 (KV)
CZ41	30.2KV	1.8mA	35.5KV
CY44, CY45	29.2KV	1.65mA	34.0KV
C743, C744, C745	28.0KV	1.5mA	33.0KV

Adjustment Preparation
4) Set AC input voltage to 100 ± 5V. Then short-circuit both ends of R903.



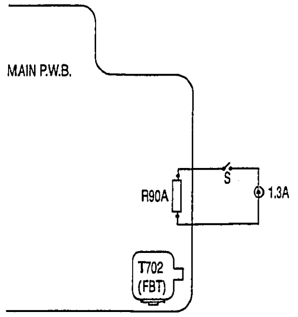
Use a Voltmeter with input impedance 10M ohm or more with indication to the 1st decimal place.

Adjustment Procedure
(2) Keep CONTRAST, BRIGHTNESS, and SCREEN VR as in item (3). Increase AC input voltage gradually, and check that the picture disappears when high voltage is E1. Immediatly after checking that it disappears, turn OFF the set switch. Remove adjustment jig and High Voltage Voltmeter.

When connecting or removing High Voltage Voltmeter to or from Anode cap, be sure to turn OFF the switch of the set. Also, be sure to perform it after the chassis discharge residual High Voltage, because the high voltage of CPT Anode may be left.

1-3-5. FBT Protection Circuit Operation Check

Adjustment Procedure
(1) Set "CONTRAST" to maximum, "BRIGHTNESS" to center.
(2) After turning ON the switch of the set, turn ON the switch (S) of the jig as shown below.
(Operating current limiter circuit.).
Check that the picture disappears.
(3) Immediately after checking, turn OFF the switch of the set.



1-3-6. +15V Short Protection Circuit Check.

Adjustment Preparation
(1) Adjust "CONTRAST" to maximum, "BRIGHTNESS" to center.

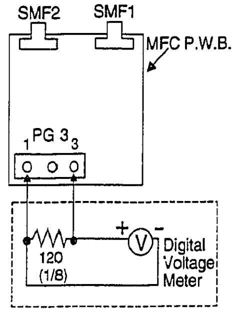
Adjustment Procedure
(1) Connect 10KΩ resistor between Q703 Base and GND and check that the picture disappears.
(2) Disconnect resistor immediately.

1-3-7 Load Reduction Circuit Operation Check.

Adjustment Procedure
(1) Receive Circle Pattern Signal.
(2) Set "VIDEO" Mode "CONTRAST" to maximum, "BRIGHTNESS" to center.
(3) Connect a DC Voltmeter to both sides of R912.
(4) Check to make sure the potential difference is more than 10V.
(5) Receive Crosshatch Signal.
(6) Set "VIDEO" mode "CONTRAST" to minimum, "BRIGHTNESS" to center.
(7) Check the potential difference is less than 3V.

1-3-8. MFC Circuit Operation Check (35TX10B/CZ41 Only)

Adjustment Preparation
(1) Receive Circle Pattern.
(2) Connect the Jig (shown below) to the PG3 Pin in MFC. P.W.B.



Adjustment Procedure
(1) Then turn SMF1 to "STRONG", turn SMF2 to "NORTH", check that the voltage is V= +2.9 ± 0.5V.
(2) Then turn SMF1 to "WEAK", check that the voltage is V = +1.5 + 0.5V.
(3) Then turn SMF2 to "SOUTH", check that the voltage is V = -2.9 + 0.5V.
(4) Then turn SMF1 to "WEAK", check that the voltage is V = -1.5 ± 0.5V.
(5) Then turn SMF2 to "E/W", check that the voltage is V = 0V.

1-4. MEMORY INITIALIZE

1-4-1. Timer Sound Operation Check

Adjustment Procedure
(1) Press the memory initialize key with the Remo-Con jig.
(2) After 5 sec. operation, check that the set has selected CH 03 and a "beeping" sound comes out from the left side (L-CH).

Note: Do not draw out the outlet within 5 second.
Do not perform any key operation, either.
After this operation, each setting should become to delivery setting automatically.

1-5. AFC OPERATION CHECK

Adjustment Preparation
(1) Connect the jig shown below to the ANT Terminal.

Adjustment Procedure
(1) Receive a Standard Carrier Signal (not offset) with the channel up/down or direct selection buttons.
Check that it is pulled into the standard tuning point.
(2) Receive an Offset Signal of ± 1.5MHZ. Check that it is pulled into the standard tuning point.
(Perform the Channel Selection Operation again.)
(3) Receive an Offset Signal of - 1.5MHZ. Check that it is pulled into the standard tuning point.
(Perform the Channel Selection Operation again.)

Note 1: Modulation signal should be used at the Circle Pattern and the Color Bar Signal.

Checking jig (All channel converter can be used)

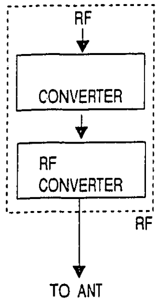


TABLE 1-6

Note: CATV Channels, actual Input Channel Numbers and Indicated Channel Numbers.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	37	31	32	33	34	35	36
MID BAND									SUPER BAND													

W+1	W+2	W+3	W+4	W+5	W+6	W+7	W+8	W+9	W+10	W+11	W+12	W+13	W+14	W+15	W+16	W+17	W+18	W+19	W+20	W+21	W+22	W+23
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
HYPER BAND																						

W+24	W+25	W+26	W+27	W+28	W+29	W+30	W+31	W+32	W+33	W+34	W+35	W+36	W+37	W+38	W+39	W+40	W+41	W+42	W+43	W+44	W+45	W+46
60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82
HYPER BAND					ULTRA BAND																	

W+47	W+48	W+49	W+50	W+51	W+52	W+53	W+54	W+55	W+56	W+57	W+58	A-5	A-4	A-3	A-2	A-1	W+59	W+60	W+61	W+62	W+63	W+64
83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105
ULTRA BAND												MID BAND					ULTRA BAND					

W+65	W+66	W+67	W+68	W+69	W+70	W+71	W+72	W+73	W+74	W+75	W+76	W+77	W+78	W+79	W+80	W+81	W+82	W+83	W+84
106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
ULTRA BAND																			

1-6. CHANNEL SELECTION CIRCUIT OPERATION CHECK

1-6-1. CHANNEL UP/DOWN Selection

Adjustment Preparation

1) Set the TV set so that VHF (CH 11, CH 13), UHF(CH 14, CH 46, CH 63) and CATV(CH A, CH E, CH P, CH W) can be received.
(2) Set AIR/CABLE Mode to AIR.
(Press the MENU key, and select the SETUP and AIR/CABLE Mode using the ENTER Key.)

Adjustment Procedure

(1) Check that VHF are received correctly by pressing CH UP (▲) or DOWN (▼) control button.

Adjustment Preparation

(3) Set AIR/CABLE Mode to CATV 1.

Adjustment Procedure

(2) Perform the same operation as in item (1), and check that VHF and CATV are received correctly.

Adjustment Preparation

(4) Set AIR/CABLE Mode to CATV2.

Adjustment Procedure

(3) Perform the same operation as in item (1), and check that VHF and CATV are received correctly.

1-6-2. CHANNEL UP/DOWN

(Inclusive of AUTOPROGRAM Operation)

Adjustment Preparation

(1) Set the TV set so that VHF (CH 11, CH 13), UHF (CH 14, CH 46, CH 63) and CATV (CH A, CH E, CH P, CH W, CH A-2, CH GG, CH OO, CH WW) can be received.

Adjustment Procedure

(1) Set AIR/CABLE Mode to AIR.
(2) Select AUTOPROGRAM Mode and press (▶) key.
After AUTOPROGRAM operation is completed, by pressing the Channel UP (▲) or DOWN (▼) control button, check that the channels having Broadcast Signal(s) can be received.
(3) Set AIR/CABLE Mode to CATV 1.
(4) Perform the same operation as in item (2) check that CATV can be received correctly.

Adjustment Preparation

(2) Set to PROGRAM LIST Mode.

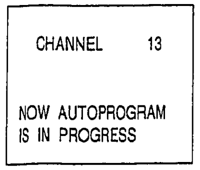
Adjustment Procedure

(5) Check that the SCAN of channels which can be selected is ON.

Note 1: CATV Channels, actual Input Channel Numbers and Indicated Channel Numbers.

A	14
E	18
P	29
W	36
A-2	98
GG(W+7)	43
OO(W+15)	51
WW(W+23)	59

Note 2: Display while AUTOPROGRAM is operating.



CHANNEL 13

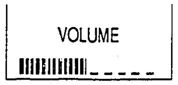
NOW AUTOPROGRAM
IS IN PROGRESS

(See Table 1-6 on Bottom of Previous Page)

1-6-3. VOLUME UP/DOWN

Adjustment Procedure

(1) Check that the Sound Volume Level and Volume Indication is going up or down continuously by pressing Sound Volume UP (▲) or DOWN (▼) control button.



VOLUME

1-6-4. POWER ON/OFF

Adjustment Procedure

(1) Check that the Power alternates between ON and OFF by alternately pressing the POWER button.

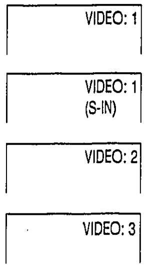
1-6-5. AVX

Adjustment Procedure

(1) Check that the O.S.D. by the every press of the AVX button, such as below.

(CZ41/CY45/CY44/C745/C744)
Receiving CH → VIDEO: 1
→ VIDEO: 1 (S-IN) → VIDEO: 2 → VIDEO: 3
→ Receiving CH

(C743)
Receiving CH → VIDEO: 1
→ VIDEO: 1 (S-IN) → VIDEO: 2



VIDEO: 1

VIDEO: 1
(S-IN)

VIDEO: 2

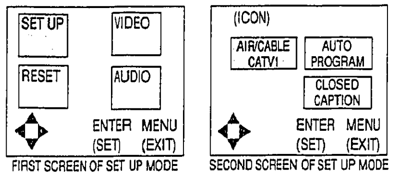
VIDEO: 3

1-6-6. MENU (NOT FOR 35TX10B/CZ41)

Adjustment Procedure

(1) Check that the MENU O.S.D. displays by pressing MENU button on the Front Panel Control.

Note: MENU O.S.D. is displayed below:



FIRST SCREEN OF SET UP MODE

SECOND SCREEN OF SET UP MODE

(2) After MENU O.S.D. is displayed.
Check that the keys function change.

MENU → MENU
CH UP → ▲ Key
CH DOWN → ▼ Key
VOLUME UP → ▶ Key
VOLUME DOWN → ◀ Key
AVX → ENTER

1-6-7. MENU Mode (Using Remo-Con Jig)

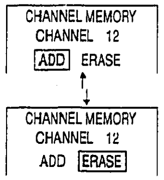
1-6-7-1. SET UP Mode.

Adjustment Preparation

(1)Set to CHANNEL MEMORY Mode.

Adjustment Procedure

(1) Check that the ADD,ERASE is selected by pressing the (▶) or (◀) control button.



CHANNEL MEMORY
CHANNEL 12
ADD ERASE

CHANNEL MEMORY
CHANNEL 12
ADD ERASE

Adjustment Preparation

(2) (a) Set the Mode to CLOSED CAPTION.
(b) Receive a Broadcast Signal having a CLOSED CAPTION signal.

Adjustment Procedure

(1) Set DISPLAY setting to ON by pressing (▶) or (◀) control button. At this time, set the other settings as follows:

1.	DISPLAY:	ON
2.	MODE:	C.C.
3.	CHANNEL:	1

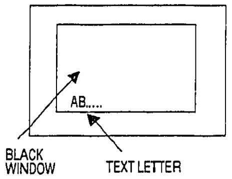
(2) Check that the CAPTION corresponding to the above setting is displayed on the screen.
(3) Set CHANNEL to 2.
(4) Check that the CAPTION of CHANNEL 2 is displayed on the screen.
(5) Set CHANNEL to 1.
(6) Check that the CAPTION of CHANNEL 1 (FIELD 2) is displayed on the screen.
(7) Set the mode to TEXT.

Adjustment Procedure

(8) Check that a black window appears and TEXT letters are displayed at the center of the screen.
(9) Repeat adjustment procedure from (3) to (6) and check that TEXT letters are displayed corresponding to each Mode.
(10) Set the Mode to CAPTION.
(11) The black window should disappear returning to the state of (2).
(12) Set ON/OFF to OFF.
(13) Check to be sure that the CAPTION letters disappear.

Remarks:

Note: Reading error should not occur on every mode.
The contents of error:
1. Wrong letters are displayed.
2. Letter omitting.
3. Other abnormal display.



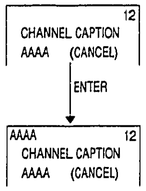
1-6-7-2. PROGRAM Mode.

Adjustment Preparation

(2) Set to CHANNEL CAPTION Mode.

Adjustment Procedure

(1) Select the "A" by pressing the (▲) or (▼) control button, and select the input position by pressing the (▶) or (◀) control button.
(2) After pressing the ENTER button, check that the indication of "AAAA" is the same as CH No. indication.
(3) Select the CHANNEL CAPTION Mode again, select the "CANCEL" by pressing the (▶) or (◀) control button and the ENTER button.
(4) Check that the "AAAA" is deleted when the CH No. is indicated, after pressing the "MENU" button.



12
CHANNEL CAPTION
AAAA (CANCEL)

AAAA 12
CHANNEL CAPTION
AAAA (CANCEL)

Adjustment Preparation

(3) Set to CHILD LOCK Mode.

Adjustment Procedure

(1) Select CHILD LOCK SET by pressing the (▶) or (◀) control button.
(2) Press " 0 " button 3 times. ("000" is input)
(3) Check that the picture becomes pitch-dark, and sound does not come out.
(4) Set to CHILD LOCK Mode again, and select "CHILD LOCK CANCEL" by pressing the (▶) or (◀) control button.
(5) Press " 0 " button 3 times. ("000" is input.)
(6) Check that the picture and sound return to the previous condition.

Adjustment Preparation

(4) Set VOLUME CORRECTION Mode.

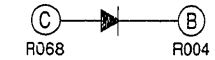
Adjustment Procedure

(1) Select the registration point using the (▲) or (▼) control button and the received Channel No. is memorized by pressing the ENTER button.
(2) Check that Volume Level changes and sets 100%~50% (5% step) using (▶) or (◀) control button.

1-6-7-3. CLOCK Mode (Clock Operation Check)

Adjustment Preparation

(1) Connect a Diode (IS2076, ISS27OTA equivalent) between Ⓒ and Ⓑ.



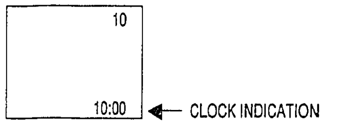
R068 R004
(The other side of I001)

Remarks: The addition of the above diode intends to check the operation with clock counting operation as 60 time mode.

(2) Set to CLOCK SET Mode.

Adjustment Procedure

(1) After clock setting is done and the indication disappears, perform CH indication. Check that clock indication is displayed in addition to the CH indication, and that the clock indication is going by 1 second per minute.



10

10:00

1-6-7-4. PICTURE Mode

Adjustment Preparation

(1) Receive the Color Bar Signal.
(2) Set to CONTRAST Mode.

Adjustment Procedure

(2) Check that CONTRAST is changed by pressing (◀) or (▶) control buttons.

▶ ; BRIGHTER
◀ ; DARKER

Adjustment Preparation

(3) Set to COLOR Mode.

Adjustment Procedure

(3) Check that COLOR is changed by pressing (◀) or (▶) control buttons.

▶ ; MORE GREEN
◀ ; MORE RED

Adjustment Preparation
(4) Set to TINT Mode.

Adjustment Procedure
(4) Check that TINT is changed by pressing (◀) or (▶) control buttons.

▶ ; DEEPER
◀ ; LIGHTER

Adjustment Preparation
(5) Set to BRIGHTNESS Mode.

Adjustment Procedure
(5) Check that BRIGHTNESS is changed by pressing (◀) or (▶) control buttons.

▶ ; BRIGHTER
◀ ; DARKER

Adjustment Preparation
(6) Set to SHARPNESS Mode.

Adjustment Procedure
(6) Check that SHARPNESS is changed by pressing (◀) or (▶) control buttons.

▶ ; CLEARER
◀ ; SOFTER

Adjustment Preparation
(7) Set to WHITE CONTROL Mode.

Adjustment Procedure
(7) Check that WHITE CONTROL is changed by pressing (◀) or (▶) control button.

▶ ; OFF (STD.)
◀ ; ON (COOL)

Adjustment Preparation
(8) Set to RESET Mode.

Adjustment Procedure
(8) Check that all picture setting modes return to delivery settings by pressing the ENTER button.

1-6-7-5. SOUND Mode

Adjustment Preparation
(1) Set to BALANCE Mode.

Adjustment Procedure
(1) Check that BALANCE is changed by pressing control (◀) or (▶) control buttons.

▶ ; RIGHT
◀ ; LEFT

Adjustment Preparation
(2) Set to BASS Mode.

Adjustment Procedure
(2) Check that BASS is changed by pressing control (◀) or (▶) control buttons.

▶ ; STRONG
◀ ; WEAK

Adjustment Preparation
(3) Set to TREBLE Mode.

Adjustment Procedure
(3) Check that TREBLE is changed by pressing control (◀) or (▶) control buttons.

▶ ; STRONG
◀ ; WEAK

Adjustment Procedure
(4) Set to RESET Mode.

Adjustment Procedure
(4) Check that all sound setting modes return to delivery settings by pressing ENTER button.

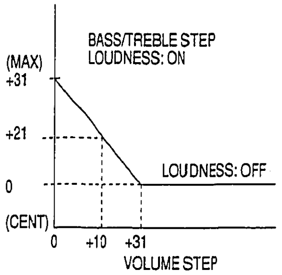
Adjustment Preparation
(5) (a) Set to "VOLUME" step at *10. Set to "BASS" and "TREBLE" at center when "LOUDNESS" is turned OFF. Set to "LOUDNESS" Mode.
(b) Set "LOUDNESS" to OFF, and "BASS/TREBLE" to center.
(c) Set it to LOUDNESS Mode.

Adjustment Procedure
(5) Check that "BASS" and "TREBLE" are changed as below table when set to "LOUDNESS" is turned ON by pressing (◀) or (▶) control button "LOUDNESS" turn OFF after checked.

LOUDNESS	BASS	TREBLE
OFF	CENTER	
ON	+21 STEP	

(When VOLUME st 10)

***Note:** According to Volume Setting Level, this function works as shown in below figure.



Adjustment Preparation
(6) (a) Input Stereo Sound Signal to VIDEO:1 terminals, and set " VIDEO:1" by AVX button.
(b) Set to SURROUND Mode.

Adjustment Procedure
(6) Check that sound is change more loudly when set to MUSIC or MOVIE Mode by pressing (◀), (▶), (▲) or (▼) control button.

Adjustment Preparation
(7) (a) Input Monaural Sound Signal to VIDEO:1 " L " terminal and set "VIDEO:1" hy AVX button.
(b) Set to SURROUND Mode.

Adjustment Procedure
(7) Check that sound is change more loudly when set to SIMULATE mode by(◀), (▶), (▲) or (▼) control button.

1-6-7-6. RESET Mode.

Adjustment Preparation
(1) Set PICTURE Setting to minimum "CONTRAST" and SOUND setting to "BALANCE" to left.
(See item **1-6-7-4** and **1-6-7-5.**)
(2) Set to RESET Mode.

Adjustment Procedure
(1) Check that Picture and Sound performance return to delivery setting by pressing the ENTER button.
(CONTRAST to maximum, BALANCE to center)

1-6-7-7. FAVORITE CHANNELS Mode.

Adjustment Preparation
(1) Set to FAVORITE CHANNELS Mode by pressing one of (◀), (▶), (▲) or (▼) control buttons.

Adjustment Procedure
(1) Select registration position using (◀), (▶), (▲) or (▼) control buttons, and check that the Channel No. selected is registered by pressing the ENTER button.
Note: 16 stations could be registered.
(2) After Normal Mode is set using the MENU button, check that the Registered Channel can be selected by using (◀), (▶), (▲) or (▼) control buttons.
Note: The selected channel is received after 0.5 seconds.

1-7. REMO-CON OPERATION CHECK

The Remo-Con check jig should be used for Remo-Con operating range and Remo-Con operation check.

1-7-1. Direct Channel Selection

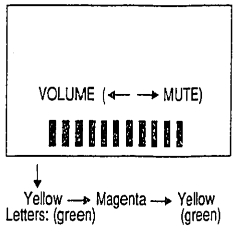
Adjustment Procedure
(1) Input 2 or 3 digits of Channel Number with the buttons of the Remo-Con check jig "0 - 9" and "100". Check that the input number and the On-Screen Display number are the same.

1-7-2. LST-CH (Last Channel Recall)

Adjustment Procedure
(1) Check that the set receives alternately between the channel which is being received and the channel which was received just before now by alternately pressing the "LST-CH" button of the Remo-Con check jig.

1-7-3. MUTE

Adjustment Procedure
(1) Check that the sound alternates between Mute and Mute Free by alternately pressing the "MUTE" button of the Remo-Con check jig. At this time, check that the indication color alternates between yellow (letters:green) and magenta.



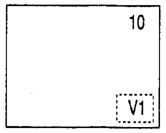
Yellow → Magenta → Yellow
Letters: (green) (green)

1-7-4. RECALL

Adjustment Procedure
(1) Check that On-Screen Display Channel No. indication alternates between ON and OFF by alternately pressing the "RECALL" button of the Remo-Con check jig.

1-7-5 . P in P (CZ41, CY45, CY44, C745, C744)

Adjustment Preparation
(1) Connect the signal to ANT and receive it.
(2) Connect the signal to VIDEO: 1.

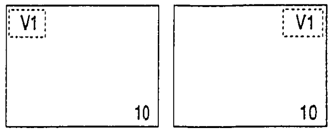


Note: At this CASE, sub-picture should be V1.

Adjustment Procedure
(1) Check that, by alternately pressing the "P in P" button of Remo-Con check jig, sub-picture alternates between ON and OFF. When sub-picture is ON, check that the Channel No. and "V1" are displayed.

1-7-6. SHIFT

Adjustment Preparation
(1) Press "P in P" button to set to P in P Mode.



Adjustment Procedure
(1) Check that, by alternately pressing the SHIFT button of Remo-Con check jig, sub-picture moves counterclockwise. At this time, check that "V1" of sub-picture also moves as well.
Note: When sub-picture is in the upper of the screen, the Channel No. of main picture comes to the lower right.

1-7-7. EXCHANGE

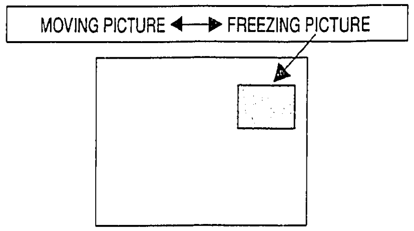
Adjustment Preparation
(1) Press "P in P" button to set to P in P Mode.

Adjustment Procedure
(1) Check that, by alternately pressing the "EXCHANGE" button, the contents of main picture and sub-picture are exchanged.

1-7-8. FREEZE

Adjustment Preparation
(1) Connect the signal to ANT and VIDEO: 1.
(One or both of the pictures should be moving picture.)
(2) Press "P in P" button to set to P in P Mode.
(3) Sub-picture should be moving picture by "EXCHANGE" button.

Adjustment Procedure
(1) Check that, by alternately pressing "FREEZE" button, sub-picture alternates between moving picture and freezing picture.

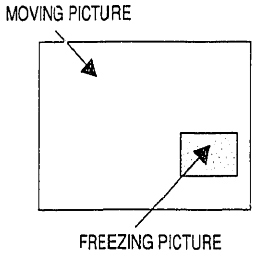


(2) Press "P in P" button to make sub-picture disappear.

1-7-9. FREEZE (P in P OFF)

Adjustment Preparation
(1) Connect signals to ANT and VIDEO: 1. Both signals should be moving picture.
(2) Set P in P to OFF.

Adjustment Procedure
(1) Check that freezing picture of main screen appears by pressing the FREEZE button of the Remo-Con check jig.
(2) Check it also in the TV and VIDEO: 1 modes.
(3) Check that sub-picture disappears by pressing the FREEZE button at picture freezing.
(4) Check that it turns to normal P in P sub-picture by pressing the P in P button at picture freezing.

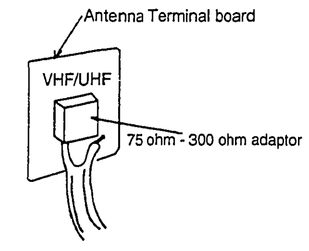


1-8. Weak Electric Field Check

Adjustment Preparation
(1) Connect one side of the 300 ohm feeder to 75 ohm - 300 ohm antenna adaptor. Connect the antenna adaptor to the VHF antenna terminal board as shown.
(2) Turn to No Signal Condition.

Adjustment Procedure

(1) Check that oscillation and abnormal beat etc. does not occur in any of the channel.

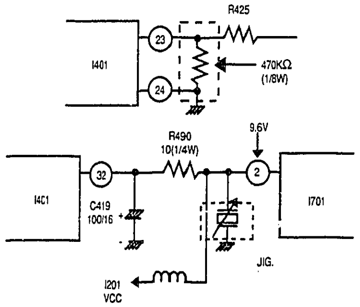

Antenna Terminal board
VHF/UHF
75 ohm - 300 ohm adaptor

1-9. MTS Demodulating Circuit Adjustment

1-9-1. Stereo VCO Adjustment (R423)

Adjustment Preparation

(1) Same as items 1-9-2 (1) and (2).
(2) Connect I401 pin ㉓ to pin ㉔ through 470KΩ resistance as shown in the figure.
(3) Connect a Frequency Counter to I401 pin ㊶. Use the probe of 1 : 1.
(Prcbe standard Ri ≧ 1 M ohm, Ci ≦ 15pF)
(4) Input of I401 pin ㊴ is no signal.
(5) Apply +9.6V ± 0.1V to the pin ② of I701 as shown in the figure. (I401 +B)


R425
I401
23
24
470KΩ
(1/8W)
R490
10(1/4W)
9.6V
I401
32
C419
100/16
2
I701
JIG.
I201
VCC

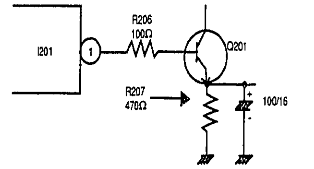
Adjustment Procedure

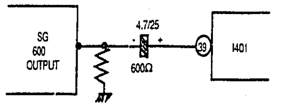
(1) Turn VR(R423) to set to 15.73 ± 0.01KHz.
(2) After the adjustment, remove the 470KΩ
(Between pins ㉓ - ㉔ of I401)

1-9-2. Filter Adjustment VR(R418)

Adjustment Preparation

(1) Set VR(R4IK) fully counterclockwise.
(2) Set Q201 Emitter to GND through capacitor 100uF/16V as shown in the figure.
(3) Apply the signal to I401 pin ㊴ with the jig shown as follows.

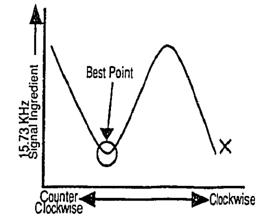

I201
1
R206
100Ω
Q201
R207
470Ω
100/16


SG
600
OUTPUT
4.7/25
600Ω
39
I401

ⓐ SG Output Signal Specification
(1) FREQUENCY
f = 15.73 KHz (Sine Wave)
(2) Signal Level
V = 100mVrms
(4) Connect an Oscilloscope to I401 pin ㉟ (L-R out).

Adjustment Procedure

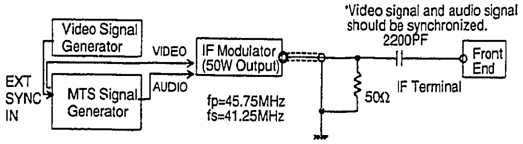
(1) Input signal ⓐ and adjust VR(R418) so that the waveform of pin ㉟ (15.73KHz included) is minimum.



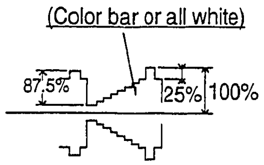
1-9-3. Input Level Adjustment VR(R41K)

Adjustment Preparation

(1) Apply the signal to TUNER (U101) IF output terminals of MAIN PWB using the jig shown below.


*Video signal and audio signal should be synchronized.
Video Signal Generator
VIDEO
IF Modulator (50W Output)
2200PF
Front End
EXT SYNC IN
MTS Signal Generator
AUDIO
fp=45.75MHz
fs=41.25MHz
50Ω
IF Terminal

IF Modulator output signal waveforms
(Color Bar or All White)


(Color bar or all white)
87.5%
25%
100%

IF Modulator Output Level and P/S
P = 106dBu (50 ohm termination)
S level; -3dB to P level
At this time, S/N ratio of F/E Video Output is 45db or less.

Sound Modulation Condition

•Noise Reduction Encoder: ON
•Stereo Signal: ①R = 0(L only), 300Hz, 30% modulation (Note 2)*
②R = 0(L only), 3KHz, 30% modulation (Note 2)*
•Monaural Signal: ③Monaural, 400Hz 100%; modulation (PRE-ENOFF)
•SAP Signal: ④SAP, 300Hz 30% modulation (Note 2)*

(2) Connect AC Voltmeter Vo to I401 pin ㊴.
(3) Same as Item 1-9-1 (5) (Apply +B to I401)
* Refer to next page.

Adjustment Procedure

(1) Select Sound Input Signal ③ and adjust VR(R41K) to Vo = 150m Vrms ± 5m Vrms.

1-9-4. Separation Adjustment VR(R429, R42A)

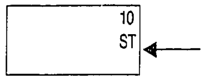
(The adjustment of items **1-9-1.** thru **1-9-3.** should have been finished.)

Adjustment Preparation

(1) Use the same jig as Input Level Adjustment.
(Be sure to remove the AC Voltmeter connected to I401).
(2) Connect an Oscilloscope to I401 pin ④.
(3) Same as in items 1-9-3 (3) and (4).
(4) Set "MTS MODE" to "STEREO".

Remarks:

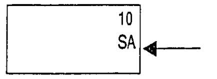
Pay attention that the separation adjusting point may be deviated if the Input Level is not regularly adjusted.



Check that "ST" is indicated in red under CH indication by pressing RECALL key of Remo-Con check jig.

Note 1: Use the Sound Modulator the frequency characteristic of which should be within + 1% during 50Hz - 100KHz.

Note 2: Turn OFF the Noise Reduction Encoder (NR) and set the modulation degree to 30%, and then turn ON the NR. Set the modulation degree at the output of low frequency Signal Generator. Leave the Sound Modulator VR of the IF modulator as it is.



(SAP receiving check)
Check that SA is indicated in red under CH indication by pressing RECALL key of Remo-Con check jig.

Adjustment Procedure

(1) Select Sound Input Signal ① and adjust VR(R42A) so that 300 Hz level is minimum.
(2) Select Sound Input Signal ② and adjust VR(R429) so that 3KHz level is minimum.
(3) Repeat (1) and (2).
Adjustment precision: within + 1dB from minimum point.

1-9-5 SAP Receiving Check

Adjustment Preparation

(1) Same as in items 1-9-4. (1) - (4).
(2) Set to "MTS MODE" to "SA".

Adjustment Procedure

(1) Select Sound Input Signal ① and designate the Output Level as Vst.
(2) Then select Sound Input Signal ④ and check that the Output level is almost the same as Vst.

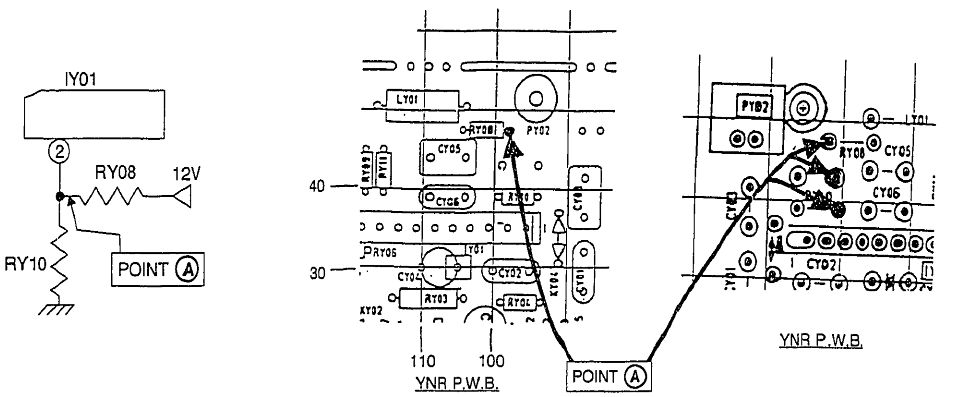
1-10. YNR Operation Check (35TX10B/CZ41)

Adjustment Preparation

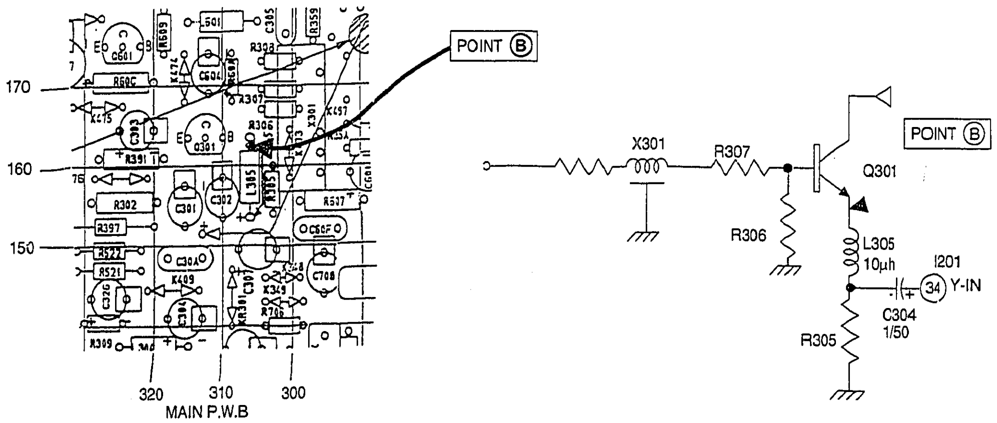
(1) Receive Circle Pattern

Adjustment Procedure

(1) Connect the DC Voltmeter to point Ⓐ of YNR P.W.B. and check that the DC Voltmeter is 9.3V ± 0.3V.


IY01
2
RY08
12V
RY10
POINT Ⓐ
40
30
110
100
YNR P.W.B.
POINT Ⓐ
YNR P.W.B.

(2) Connect the DC Voltmeter to point Ⓑ of MAIN P.W.B. and check that the DC Voltmeter is 1.15V ± 0.3V.


POINT Ⓑ
170
160
150
320
310
300
MAIN P.W.B
X301
R307
Q301
R306
L305
10μh
I201
34
Y-IN
C304
1/50
R305
POINT Ⓑ

2. FINAL ADJUSTMENT/COMMON SERVICE ADJUSTMENT

2-1. Purity Convergence Adjustment

Note: For A78LCU30X (HITACHI 31V Dark Tint), A68KSA30X (HITACHI 27V Dark Tint), M78JUA165X (31V Dark Tint),

M68JUA168X (27VDarkTint) applies to item 2-1-1(8). For ITC TYPE A89AEJ15X01 (35V Dark Tint) only applies to item 2-1-1 (8) (PURITY Check).

Preparation of Adjustment

(1) Keep DY attached to CPT funnel.
(2) Turn ON the set and receive Crosshatch Signal (or Circle Pattern Signal). Adjust the Static Convergence coarsely according to item 2-1-3.
(3) Receive Circle Pattern Signal and adjust the White Balance according to item 2-4.
(4) Set BRIGHTNESS control and CONTRAST control to maximum, and heat-run the set with Circle Pattern Signal received for 40 minutes or more.

2-1-1. Purity Adjustment

THIS ADJUSTMENT METHOD APPLIES TO THE PURITY ADJUSTMENT BY USING MICROSCOPE

(1) Adjust coarsely White Balance, Static Convergence (center) and Focus.
(2) Receive Circle Pattern and heat-run more than T minutes with CONTRAST and BRIGHTNESS maximum. Do not delete the raster nor vary the current before fixing the position of DY. Heat-run should be done with perfect raster.
(DY and Tilt should have been coarsely adjusted)

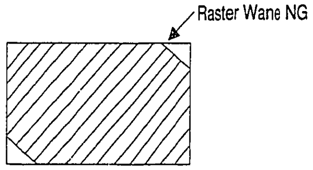

Raster Wane NG

TABLE 1 *

CPT	T
A68KSA30X	40 Min
M68JUA168X	
A78LCU30X	45 Min
M78JUA165X	45 Min

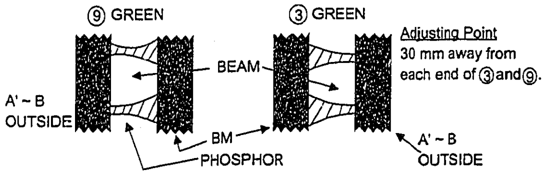
(3) The magneticic field in the artificial magnetic field should follow the table below and the set should face as table 2. Degauss it from the outside.

DESTINATION	VERTICAL FIELD	HORIZONTAL FIELD
USA	0.45 G	0.3 G
CANADA	0.54 G	0.15 G
UNIVERSAL	0.35 G	0.3 G
PANAMA, HAWAII	0.2 G	0.3 G
TAIWAN	0.22 G	0.37 G

TABLE 2. Directions for adjustment

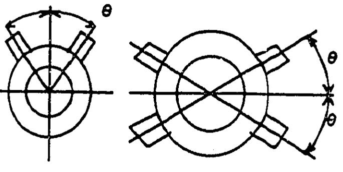
A68KSA30X	North
M68JUA168X	
A78LCU30X	North
M78JUA165X	North

(4) Adjust the position of Purity Magnet and DY, keep the landing balance of ③ and ⑨, and adjust so that the landing of ③ and ⑨ is as follows while observing with a microscope.
A68KSA30X/A78LCU30X


⑨ GREEN
③ GREEN
Adjusting Point
30 mm away from each end of ③and⑨.
BEAM
A' ~ B OUTSIDE
BM
PHOSPHOR
A' ~ B OUTSIDE

M68JUA168X/M78JUA165X
Adjusting Point ③/⑨ A' outside.

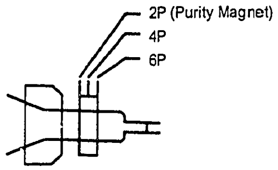
(A) Open the Purity Magnet as follows in order to move the raster



C-F MAGNET
P#2773671

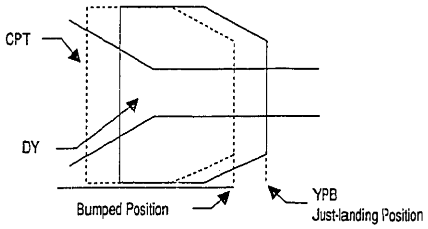
C-F MAGNET
P#2773672/P#2775082
(FOR VM MODEL)

Keep the balance of ③/⑨ DY landing

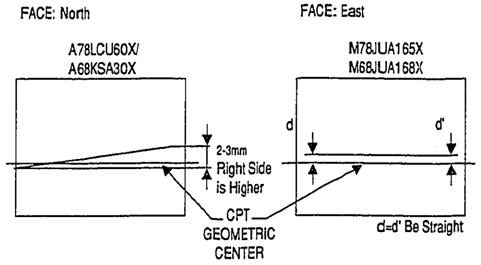

2P (Purity Magnet)
4P
6P

(B) YPB (Yoke Pull-Back) should be as follows.
(Distance between the bumped position of DY toward the funnel and the just-landing position of ③ and ⑨.)

CPT	YPB (DESIGN CENTER)
A68KSA30X	2.44mm
M68JUA168X	
A78LCU30X	2.2mm
M78JUA165X	2.2mm


CPT
DY
Bumped Position
YPB
Just-landing Position

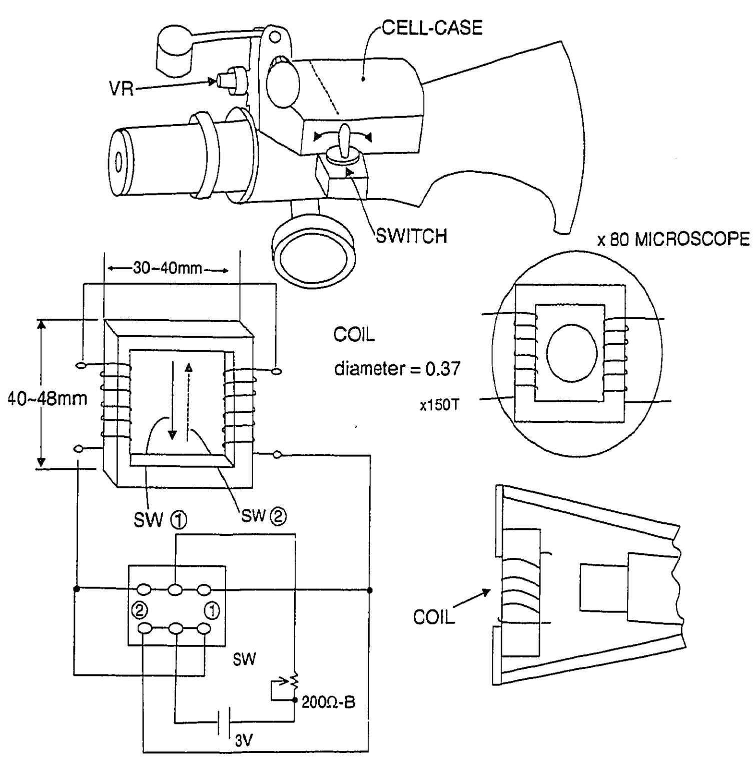
(C) DY Tilt should be as follows:


FACE: North
FACE: East
A78LCU60X/
A68KSA30X
M78JUA165X
M68JUA168X
2-3mm
Right Side is Higher
CPT
GEOMETRIC CENTER
d
d'
d=d' Be Straight

(5) Fix DY with fixing torque of 14kg.cm
Control the torque by an electrical driver.
(6) If any mislanding occurs, correct with magnets.
At this time, if the white uneveness is all right, any magnet is not needed.
(7) After peripheral convergence is adjusted, check the position of DY and tighten the DY again. (14kg.cm)

Reference

THE JIG


CELL-CASE
VR
SWITCH
x 80 MICROSCOPE
30~40mm
40~48mm
COIL
diameter = 0.37
x150T
SW ①
SW ②
②
①
SW
200Ω-B
3V
COIL

Fix coil to CRT side of microscope. Set it up side down and measure it.. Check that beam moves to the right and left equally in quantity.

(8) Purity Check
The magnetic field in the artificial magnetic field should follow the magnetic field according to the destination, and the set should face as follows. After degaussing in each direction, check these items visually and with a microscope.
(A) No problem in white uneveness.
(B) Each single color must not hit any other colors.
(C) If white or each single color is defective, apply a magnet (S) on CPT for correction.
If any magnet is applied, check it after degaussing.

CPT	CHECK FACE
M68JUA168X	SOUTH, NORTH
M78JUA165X	
A68KSA30X	SOUTH, NORTH
A78LCU30X	
A89AEJ15X01	SOUTH, NORTH

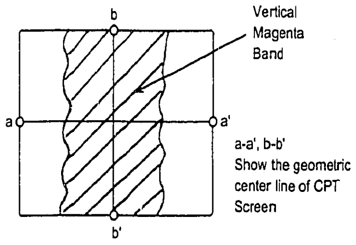
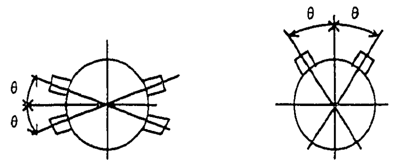

b
a
a'
b'
Vertical Magenta Band
a-a', b-b'
Show the geometric center line of CPT Screen

Fig. 2-1-2-1

2-1-2. Purity Adjustment

(THIS ADJUSTMENT METHOD APPLIES TO THE HAND-OPERATED PURITY ADJUSTMENT.)

(1) Use the Earth's magnetic field (Location of the set).
(2) Adjust Focus coarsely according to item 2-2.
(3) Adjust Convergence coarsely according to item 2-1-4.
(4) Receive Circle Pattern Signal and check that CONTRAST and BRIGHTNESS are maximum.
(5) Receive Magenta Signal. When the Magenta Signal is not available, short-circuit between the Base and Emitter of Q855 to set to Magenta.
(6) Press DY fully against CPT funnel and turn the Purity Magnet so that the Vertical Magenta Band comes to the center of the picture. (Fig. 2-1-2-1) Check that color uneveness of both sides are approximately equal at this time.
The openings of the Purity magnet should be symmetric.
(Fig. 2-1-2-2)



C-F MAG P#2773672
P#2775082 (For VM Models)

C-F MAGNET
P#2773671

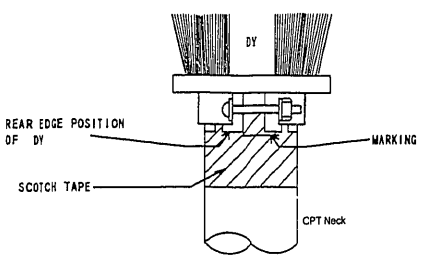
Fig. 2-1-2-2

The openings of purity magnet should be symmetric on the right and left sides (P#2773671) and on the upper and lower sides (P#2773672), (P#2775082).

(7) Receive the Single Red Signal.
When the Single Red Signal is not available, short-circuit between the Base and Emitter of Q854, and between the Base and Emitter of Q857 to set to Single Red Signal.

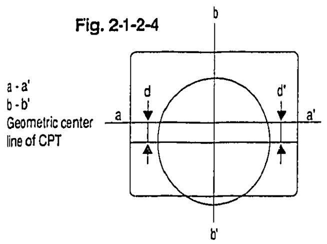
(8) Pull back DY gradually and when the color uneveness of both sides of the picture disappear, mark the rear edge position of DY on the tape wound around CPT neck as shown in Fig. 2-1-2-3. Pull back DY further and just before the color uneveness starts to appear on both sides of the picture, mark the rear edge position of DY on the tape by the same way.
At this time, pull back DY so that the center axis of DY and CPT axis match.

Fig. 2-1-2-3


DY
REAR EDGE POSITION OF DY
MARKING
SCOTCH TAPE
CPT Neck

(9) Move DY so that the rear edge position of DY comes to the center of the two marked lines and fasten DY as d = d'. (Fig 2-1-2-4).
Further insert the rubber wedge between DY and CPT funnel from the top and raise DY backwards.

Fig. 2-1-2-4


b
a - a'
b - b'
Geometric center line of CPT
a
d
d'
a'
b'

(10) Set CPT axis direction magnetic field according to the Earth's magnetic field setting.
(The direction of the magnetic field should be from the CPT screen side to the neck side.)

(11) After degaussing it from outside, check the Purity in each color of R,G and B visually. Then, turn the screen to White and check the landing at the screen position shown in Fig. 2-1-2-5 with a microscope.

Criteria with microscope
There should be no mislanding at positions 2-4-8 and 10. (Refer to the mislanding criteria)
Green beam should be at the center of the green phosphor at position C.

(12) Turn over the direction of CPT axis direction magnetic field of the Earth's magnetic field and check it by the same C way as item (11). The positions of mislanding criteria with microscope should be 2, 4, 8 and 10. (Fig. 2.-1-2-5)

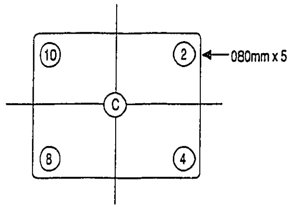

⑩
②
080mm x 5
C
⑧
④

Fig. 2-1-2-5

Mis-Landing Criteria
The following conditions are defined as mislanding. Each color beam shines on the phosphor of the applied color and there are phosphor parts which are not luminous (shaded parts in the Fig. 2-1-2-6) between the luminous part and black matrix or each color beam shines on the phosphor of not applied color.

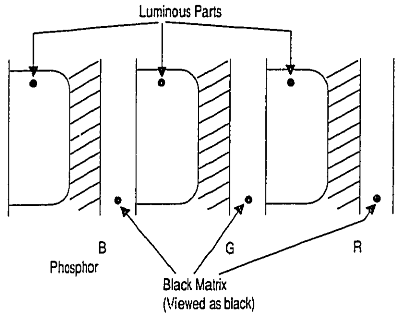

Luminous Parts
B
G
R
Phosphor
Black Matrix
(Viewed as black)

Fig. 2-1-2-6 Enlarged view of screen with microscope

(13) To improve the mislanding mentioned above, it's acceptable to stick the permanent magnet to CPT funnel.
(Fig. 2-1-2-7 and Fig. 2-1-2-8)

Usage
Apply a silicone rubber KE-4O WRTV to the permanent magnet shown in the Figure 2-1-2-8. , adhere it to CPT funnel and then fix it with permaseal tape.

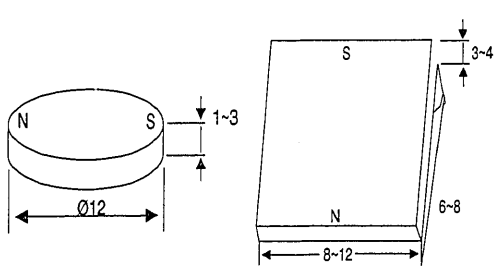

N
S
1~3
Ø12
S
3~4
N
6~8
8~12

Fig. 2-1-2-7

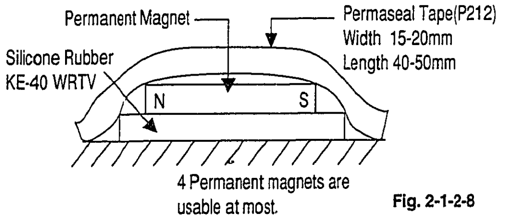
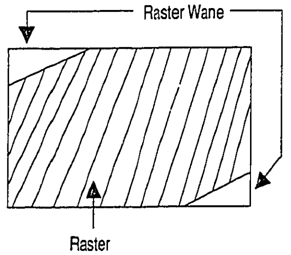

Permanent Magnet
Permaseal Tape(P212)
Width 15-20mm
Length 40-50mm
Silicone Rubber
KE-40 WRTV
N
S
4 Permanent magnets are usable at most.

Fig. 2-1-2-8

Notes for pre-heat
Before pre-heating, stick DY to CPT funnel and fix it so that the raster is perfect.


Raster Wane
Raster

If the raster is imperfect like the figure, CPT neck is in danger of cracking because the beam may hit it.

2-1-3. Static Convergence Adjustment (Screen Center Part) (Except ITC CPT)

(1) Receive the Crosshatch Signal and set BRIGHTNESS to center, CONTRAST to minimum.

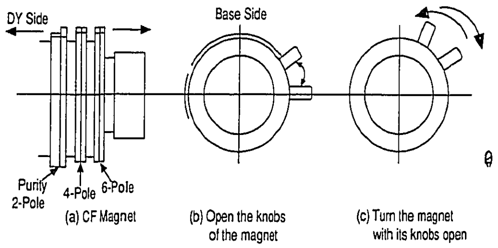
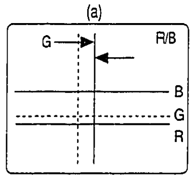

DY Side
Base Side
Purity 2-Pole
4-Pole
6-Pole
(a) CF Magnet
(b) Open the knobs of the magnet
(c) Turn the magnet with its knobs open

Fig. 2-1-3-1

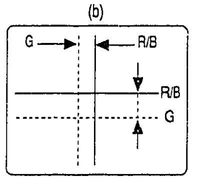
Open the knobs of 4-pole magnet (2 sheets)(Fig.2-1-3-1(b)) and match the blue/red vertical lines at the center of the screen as shown in fig. 2-1-3-2(a).

Fig. 2-1-3-2



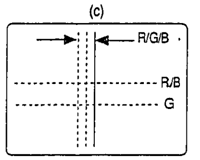
(3) Turn the 4-pole magnet with its knobs open (Fig. 2-1-3-1(c)) and match the blue/red horizontal lines as shown in Fig. 2-1-3-2(b).

Fig. 2-1-3-2



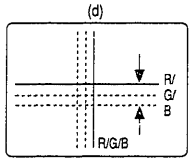
(4) Open the knobs of 6-pole magnet (2 sheets) and match the green vertical line at the center of the screen to the blue/red vertical lines shown in Fig. 2-1-3-2(c).

Fig. 2-1-3-2



(5) Turn the 6-pole magnet with its knobs open and match the green horizontal line at the center of the screen to the blue/red horizontal lines as shown in Fig. 2-1-3-2(d).

Fig. 2-1-3-2



(6) After the adjustment of items (1) - (5), if red/blue/green (3 colors) do not match, repeat the adjustment of (1) - (5).

(7) After checking that Purity and Static Convergence are adjusted to the best condition, fix C-F Magnet with white paint.

2-1-4. Dynamic Convergence Adjustment (Except ITC CPT Type)

(1) Insert an adjustment wedge (temporary) between the top of DY opening and CPT funnel as shown in Fig. 2-1-4-1. By inserting the wedge gradually, match the red and blue vertical lines at the top and bottom of the screen and also match the red and blue horizontal lines of both sides of the screen as shown in Fig. 2-1-4-2 (a).

(2) Adjust the swinging in the right/left directions of DY while observing 6 and 12 horizontal lines of the screen and match the red and blue horizontal lines.
As shown in Fig. 2-1-4-2 (b), when the blue is outside from the red on CPT screen, insert the DY fixing wedge between the right-side DY viewed from the rear of CPT and CPT funnel.

(3) AS shown in Fig. 2-1-4-2 (c), when the blue is inside from the red on CPT screen, insert the wedge between the left-side DY and CPT funnel.

(4) Insert two DY fixing wedges with approx.120 to the DY fixing wedge inserted in the Items (2) or (3) and remove the adjustment wedge (temporary).
Use the DY fixing wedge after peeling off the tape. After the location, press and adhere it to the funnel.

HITACHI CPT A68KSA30X, M78JUA165X, M68JUA168X, A78LCU30X

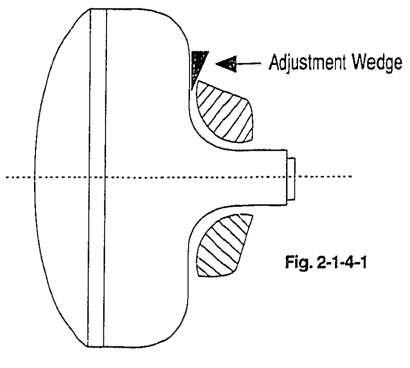

Adjustment Wedge

Fig. 2-1-4-1

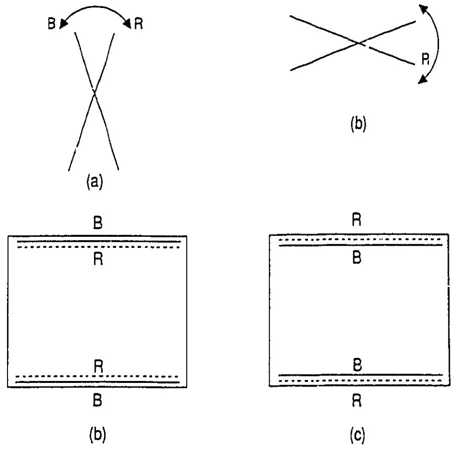

B
R
R
(a)
(b)
B
R
R
B
(b)
R
B
B
R
(c)

Fig. 2-1-4-2

2-2 Focus Adjustment

NO.	MODEL	CPT	CONDITION	FOCUS VR SETTING POSITION
1	35TX10B CZ41	A89AEJ15X01	• Receive the Crosshatch Signal • Picture Control: Maximum • Sharpness Control: Center • Brightness Control: Where the back ground is set.	Turn the Focus VR gradually clockwise from the full counterclockwise. Then set it to the point where the focus of the 5th vertical line from the screen center becomes best.
2	31UX5B CY45	M78JUA165X	Same as above	Turn the Focus VR gradually clockwise from the full counterclockwise. Then set it to the point where the focus of center vertical line from the screen center becomes best.
3	31CX4B CY44	A78LCU30X (HED-US)	Same as above	Turn the Focus VR gradually clockwise from the full counterclockwise. Then set it to the point where the focus of center vertical line from the screen center becomes best.
4	27UX5B C745	M68JUA168X	Same as above	Turn the Focus VR gradually clockwise from the full counterclockwise. Then set it to the point where the focus of the 6th vertical line from the screen center becomes best.
5	27CX4B C744 27CX3B C743	A68KSA30X (HED-US)	Same as above	Turn the Focus VR gradually clockwise from the full counterclockwise. Then set it to the point where the focus of center vertical line from the screen center becomes best.

2-3. Deflection Circuit Picture Adjustment

2-3-1. Horizontal Center Adjustment VR(R704)

Adjustment Preparation

(1) Receive Circle Pattern Signal. Set CONTRAST to maximum and BRIGHTNESS to center.

Adjustment Procedure

(1) Adjust H. size marker, turn VR(R704) to adjust difference of right and left horizontal size marker is within 0.5.

2-3-2. Vertical Size Adjustment VR(R62A)

Adjustment Preparation

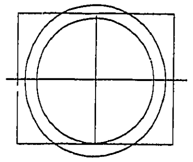
(1) The set should face the North or South.
(2) Receive Circle Pattern Signal, and set CONTRAST to maximum and BRIGHTNESS to center.

Adjustment Procedure

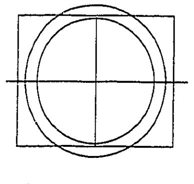
(1) Adjust V. size VR(R62A) so that the outer circle of the Circle Pattern is like the figure.

Note: Wait 5 minutes or more after turning the power ON to perform this adjustment.

(i) When the picture center is below CPT center
Adjust so that 1/2 of the width of the outer circle comes to the top of the screen.

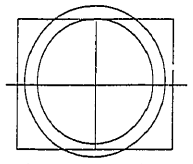


(ii) Standard Condition
Adjust so that the inner circle comes in contact with the top and bottom of the screen.



(iii) When the picture center is above CPT center.

(1) When the picture center is 0-2 mm above CPT center, adjust so that the bottom of the inner circle comes in contact with the bottom of the screen.



(2) Except for the above, adjust so that 1/2 of the width of the outer circle comes to the bottom of the screen.

2-3-3. Side Pin Distortion Adjustment VR(R752)

Adjustment Preparation

(1) Receive Crosshatch Signal and set CONTRAST to maximum and BRIGHTNESS to the point where the background is set.

Adjustment Procedure

(1) Adjust VR(R752) so that the line of the right and left is straight.

2-3-4. Horizontal Size Adjustment VR(R755, R775)

Adjustment Preparation

(1) Receive Circle Pattern Signal.
(2) Set CONTRAST to maximum and BRIGHTNESS to center.

Adjustment Procedure

(1) Set the VR(R775) at the counterclockwise end.
(2) Vary VR(R755) so that the horizontal size markers at the right and left end are A - A on the average.*
(3) Vary VR(R775) so that the horizontal size markers at right and left are B - B on the average.*
(4) Vary VR(R704)so that the difference of the horizontal size markers at the right and left end are within 1.5.

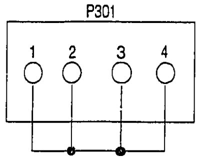
*

CPT SIZE	A	B
35V	0.5	1.0
31V	1.0	1.5
27V	1.0	1.5

2.4. White Balance Adjustment

Adjustment Preparation

(1) Apply heat-run 10 minutes or more after the power is turned ON.
(2) Check that the Purity Adjustment has been completed.
(3) Set the vertical incident illumination on the CPT surface to 20 lux or less.
(4) Receive White Raster Signal.
(5) Set Drive Adjusting VRs (R806, R816) to the mechanical center.
(6) Turn Low Brightness White Balance adjusting VRs(R807, R814, R818) fully counterclockwise.
(7) Set the Color Temperature Control (White Control) to OFF (STD).
(8) Turn the SCREEN Adjusting VR fully counterclockwise.
(9) Short circuit TP connector pin 1~4.



Adjustment Procedure

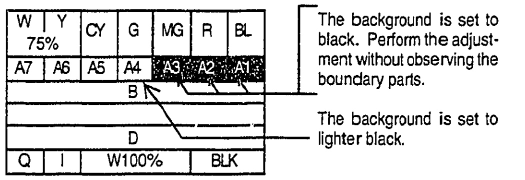
(1) Turn the SCREEN Adjusting VR clockwise and set it to the position where the bright colored line starts appearing on CPT screen. Do not turn thereafter the Low Brightness White Balance VR (This is called VR-A) corresponding to the color first appearing. When a bright colored line does not appear, set the SCREEN VR fully clockwise.
(2) Turn clockwise the Low Brightness White Balance VRs except VR-A and adjust so that the red, green and blue bright colored lines appear on the screen equally.
(3) Remove the jig which has shorted TP connector.
(4) Set CONTRAST and BRIGHTNESS control to minimum and turn SUB-BLACK LEVEL VR (R340) to set at the position where the white raster is just slightly seen.
(5) Set the White Balance Meter at the center of the screen.
(6) Adjust CONTRAST control so that the indication of the Brightness Meter is 80% of the full scale. Then, turn the Drive adjusting VRs (R806, R816) and adjust the High-Brightness White Balance.
(7) Adjust CONTRAST control to minimum and check that the Low-Brightness White Balance is obtained by directly observing the CPT surface, without using a mirror.
(8) When the Low Brightness White Balance is not obtained, adjust other Low-Brightness White Balance VRs except VR-A and return to item (6). **White Balance Color Temperature Setting 7,200K.**
(9) Set White Control (Color Temperature Control) to ON (COOL), and check that Color Temperature is approximately 9,300'K.

2-5. Sub-Black Level Adjustment VR(R340) Adjustment Preparation

(1) Apply heat-run for 10 minutes or more after the power is turned ON.
(2) Receive Color Bar Signal.
(3) Set CONTRAST and COLOR Controls to minimum.
(4) Set the vertical incident illumination on the CPT surface to 20 lux or less.
(5) Set BRIGHTNESS Control to the center position.
(6) Set White Control to OFF (STD).

Adjustment Procedure

(1) Turn SUB-BLACK LEVEL adjustment VR (R340) as follows. SUB-BLACK LEVEL adjustment the background of A1,A2, A3 are set to black and A4 is set lighter black.


W
Y
75%
CY
G
MG
R
BL
A7
A6
A5
A4
A3
A2
A1
B
D
Q
I
W100%
BLK
The background is set to black. Perform the adjustment without observing the boundary parts.
The background is set to lighter black.

(2) Check by directly observing the CPT surface, without using a mirror.

2-6. AGC Adjustment VR(R202)

Adjustment Preparation

(1) After all the adjustments are finished, heat-run 5 minutes or more in signal receiving condition.
(2) Receive Color Bar Signal or High-VHF Channel (CH10).
(3) Set CONTRAST to maximum, and BRIGHTNESS to On-Screen Display center.
(4) Antenna input power: - 53dBm $^{+1}_{-0}$ (-53dBm ~ -52dBm)
(5) Connect DC Voltmeter of internal resistance 1MΩ or more to TPI5.

Adjustment Procedure

(1) Adjust AGC Adjustment VR (R202) until the indication of DC Voltmeter does not change any more at the maximum point. The reading of DC Voltmeter is named V1.
(2) Adjust AGC Adjustment VR (R2O2) so that the indication of DC Voltmeter is {V1-(0.5 ± 0. 2)}V. Verify that there is no video noise visibly seen.

2-7. Channel Selector Operation Check

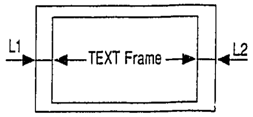
2-7-1. CCD Display Position Adjustment.

Adjustment Preparation

(1) Receive an Encoded Signal of Closed Caption Signal.
(2) Press and hold down the AVX key and press POWER key of MAIN P.W.B. front keys, turn ON the set.

Adjustment Procedure

(1) When the TEXT from the CAPTION appears On Screen. Adjust the size of TEXT and from area satisfies the following specification by using (◀) , (▶) control buttons.



CPT Effective Screen
/ L1- L2 /≦2mm or
less at CPT Center

2) When the adjustment item(1) is finished, turn OFF the set by the POWER key.

2-8. Matching Check With Other Instruments

2-8-1. VIDEO 1 Input Terminal Matching Check

Adjustment Preparation

(1) Input a Video Signal to the VIDEO 1 terminal.
The Video Signal Level should be within 1 ± 0.2 Vp-p (75 ohm termination) with 100% White Signal.
(2) Input an Audio Signal to the AUDIO 1 terminal. The Audio Signal Level should be 400m Vrms ± 2m Vrms at this time. (Connect VCR or TV TUNER)
(3) Connect an Audio AMP to the AUDIO OUT terminals. (Or connect VIDEO and AUDIO terminals of a standard monitor.

Adjustment Procedure

(1) Check that the set receives signal when the AVX1 Mode is selected, by pressing the AVX (FUNCTION) button on the front side of the set.
(2) When an External Input is performed, the Video and Audio should not be abnormal.
The 100% White Signal that RF input receives should be as bright as the Video Signal 1Vp-p (75 ohm termination). As for the sound, when the 100% modulation that RF input receives is 25KHZ, DIV., the Sound Level should be as much as the External Audio Signal (400 Vrms) level.

2-8-2. VIDEO 2 Input Terminal Matching Check.

Adjustment Preparation

(1) Same as 2-8-1.

Adjustment Procedure

(1) Check that the set receives signal at AVX2 Mode.

2-8-3. VIDEO 3 Input Terminal Matching Check

Same as 2-8-2.

2-8-4. S -IN Input terminal Matching check.

Adjustment Preparation

(1) Connect the Video/Chroma Signal to S-IN terminal.
(2) Connect the Sound Signal to AUDIO 1 input terminals.

Adjustment Procedure

(1) Check that the set receives signal at S-IN Mode.

2-8-5. AUDIO Output Level Check

Adjustment Preparation

(1) Input the same Audio Signal as Item 2-8-1 (2) to AUDIO IN terminal(L). At this time, connect nothing to R terminal.
(2) Input the same Audio Signal as Item 2-8-1 (2) to AUDIO IN terminal (R). At this time, connect nothing to L terminal.
(3) Check that the Normal Sound is output from both sides of the speakers when signal in item (1) is input.
(4) Check that the Normal Sound is output from only the right ((R) speaker when signal in Item (2) is input.

Adjustment Procedure

(1) Check that the Audio Output of AUDIO AMP connected to AUDIO Hi-Fi OUT terminals or monitor changes according to the "VOLUME" of the set.
(2) Confirm that the Output Level of item(1) should be 1Vrms (2.8 Vp-p) ± 20%. (Above level is equivalent to maximum VOLUME,100% Modulated Signal Input.)

2-9. Safety Check

2-9-1. Polarity Check

There should be electricity between AC Power Cord and Chassis Earth.

2-10. MTS Operation Check

2-10-1. STEREO/SAP Broadcast Receiving Check

Adjustment Preparation

(1) Set the set so that a MTS Broadcast (STEREO/SAP) can be received..
(2) Set MTS Mode to STEREO or SAP Mode.
Note: To select between "STEREO/SAP", display sound setting of MTS Mode and select SOUND MENU.
(3) Set BALANCE to the center.

Adjustment Procedure

(1) When one of the MTS Broadcast Stereo or SAP is received, check that "ST" or "SA" is displayed on the screen.

STEREO 11
or SAP ST
or SA

(2) STEREO Broadcast Receiving Check
  (I) Select MTS Mode and press ENTER button to display "STEREO" on the screen.
  (II) When only Lch signal is received, Lch sound comes out from the left speaker.
  (III) When only Rch signal is received, Rch sound comes out from the right speaker.
  (IV) When Monaural Signal is received, Monaural Sound comes out from both of the right and left speakers.
(3) SAP Broadcast Receiving Check
  (I) Select MTS Mode and press ENTER button to display "SAP" on the screen.
  (II) SAP signal comes out from both of the right and left speakers.
  (III) When no SAP signal,the sound on "MAIN" side comes out.

Note: When the Channel selection is performed or RECALL button is operated "ST" or "SA" is shown below the Channel No. (For approximately 8 seconds)

2-10-2. MTS Mode Check

Adjustment Preparation

(1) Set the set so that a MTS Broadcast (STEREO/SAP) can be received.
(2) Set BALANCE to the center.

Adjustment Procedure

(1) When "MTS MODE" Mode is set to "MONO" side, check that STEREO and MONO indication lamps which have been ON are turned OFF and that Monaural Sound comes out from the right and left speakers.
(2) When "MTS MODE" Mode is set to "STEREO" side, check that STEREO and MONO indication lamps which have been OFF are turned ON and that STEREO and SAP sound can be received.

2-10-3. STEREO Separation Check

Adjustment Preparation

(1) Set the set so that a MTS Broadcast (STEREO/SAP) can be received.
(2) Make Surround "OFF".
(3) Set MTS MODE to "STEREO".
(4) Connect AUDIO OUT terminals L and R to an Oscilloscope.

Adjustment Procedure

(1) When STEREO L only signal (or R only signal) is received, check that the Output Level Ratio of L CH and R CH is 15 dB or more. (Example)

CH	Output Level
L	1.2 Vpp
R	0.21 Vpp or less

When L only is received (100% modulation)

2-11. Setting For Delivery

Setting is possible by Remo-Con jig.

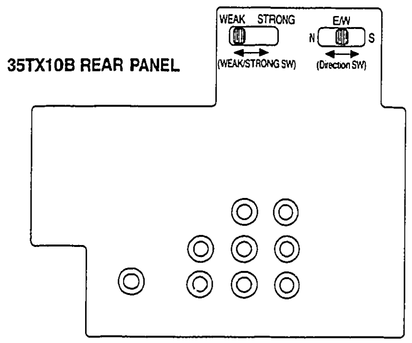
SPECIFICATION BY MODELS

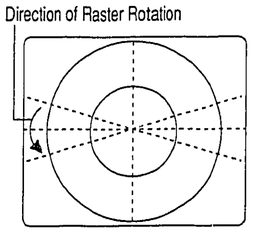
NAME	SPECIFICATIONS BY MODELS	
	P in P	No P in P
AIR/CABLE	AIR	AIR
RECEPTION CHANNEL	CH 03	CH 03
SOUND (VOLUME)	"10" On-Screen Display	"10" On-Screen Display
INPUT SELECT (AVX)	TV Mode	TV Mode
CONTRAST	Maximum	Maximum
COLOR	Center	Center
TINT	Center	Center
BRIGHTNESS	Center	Center
SHARPNESS	Center	Center
WHITE CONTROL	ON: (COOL)	ON: (COOL)
BALANCE	Center	Center
BASS	Center	Center
TREBLE	Center	Center
MTS MODE	STEREO	STEREO
SURROUND	OFF	OFF
LOUDNESS	OFF	OFF
INTERNAL SPEAKERS	ON	ON
P IN P	OFF	____
CLOSED CAPTION	OFF	OFF
CLOSED CAPTION MODE	C.C.	C.C.
CLOSED CAPTION CHANNEL	1	1

2-12. Magnetic Field Correction Circuit Operation Check. (35TX10B/CZ41 Only)

Adjustment Preperation

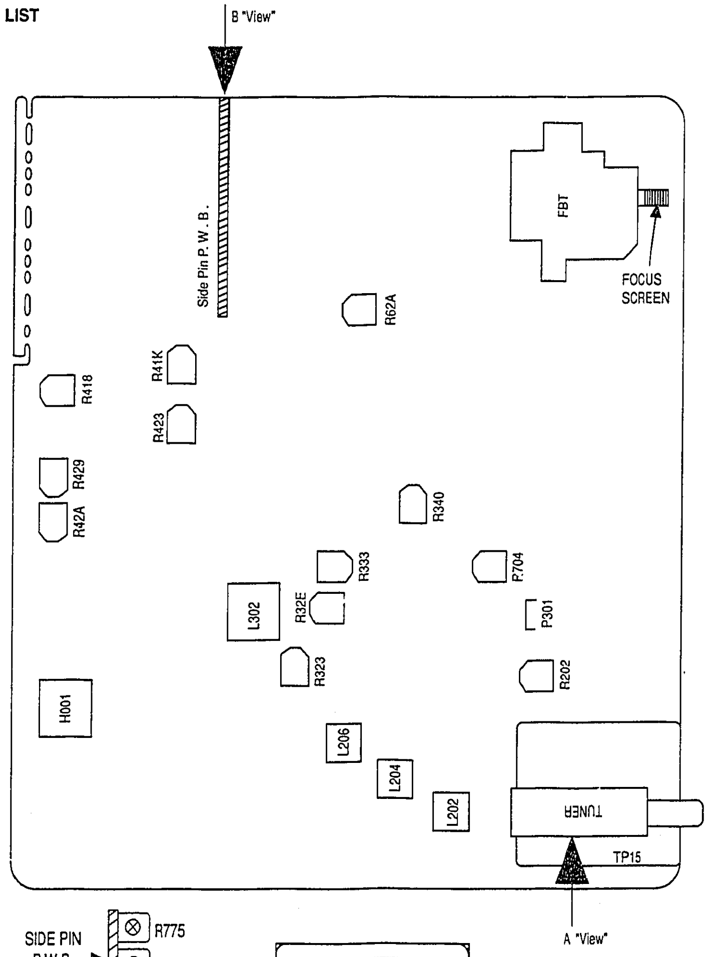
(1) Receive Circle Pattern Signal.
(2) Set "Weak/Strong SW" to "Strong".
(3) Set "Direction SW" to "N".
(4) Check that the raster rotates to counterclockwise when "Direction SW" set from "N" to "S".
(5) Set "Weak/Strong SW" set to "Weak.
(6) Set "Direction SW to "N".
(7) Check that the raster rotates to counterclockwise when "Direction SW" set from "N" to "S".
(Check the rotation angle is less than "Strong" position.
(8) Set "Weak/Strong SW" to "Strong" and "Direction SW" to "E/W".

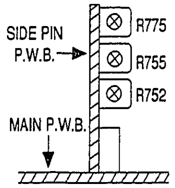




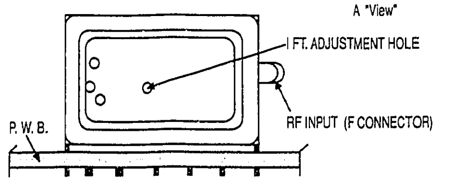
CPT SCREEN

3. ADJUSTMENT POSITION LIST





B "VIEW"

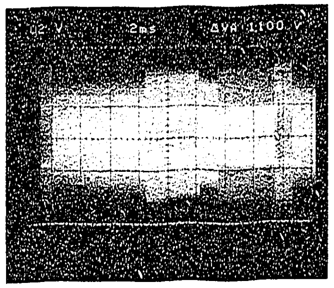


A "VIEW"

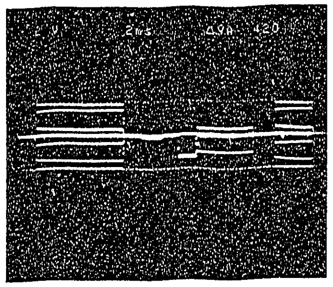
WAVEFORMS AT EACH SECTION

Numbers inside circle correspond to locations shown in the circuit diagram.

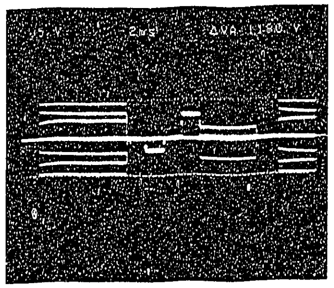
① U101 Pin 7 (IF Out)



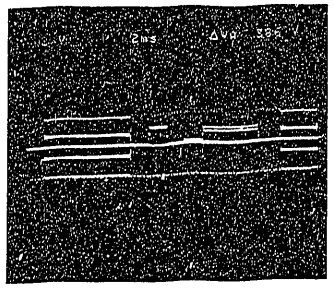
② I201 Pin 18 (R-Y)



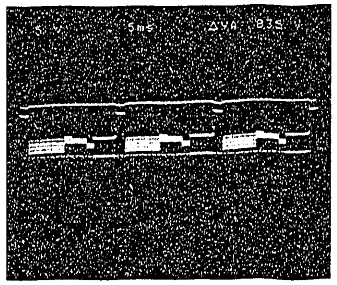
③ I201 Pin 19 (G-Y)



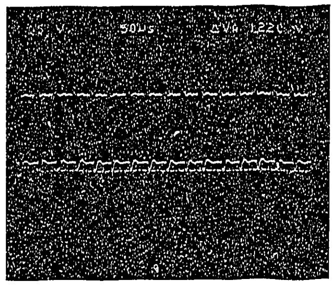
④ I201 Pin 20 (B-Y)



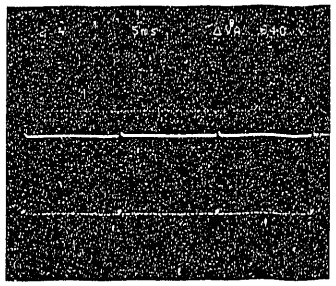
⑤ I201 Pin 21 (-Y)



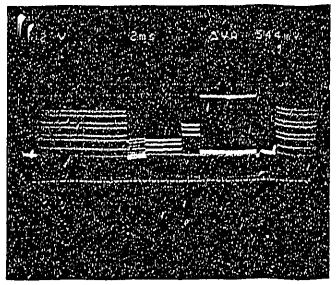
⑥ I201 Pin 23 (H. Out Pulse)



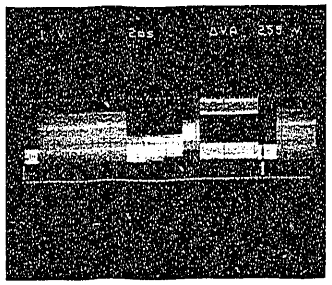
⑦ I201 Pin 28 (V. Out Pulse)



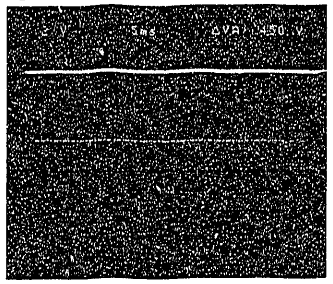
⑧ I201 Pin 34 (Video In)



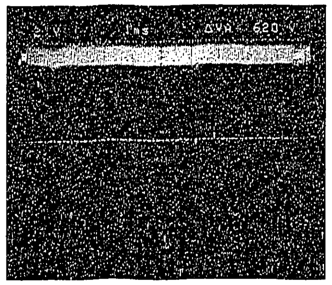
⑨ I201 Pin 44 (Video Det. Out)



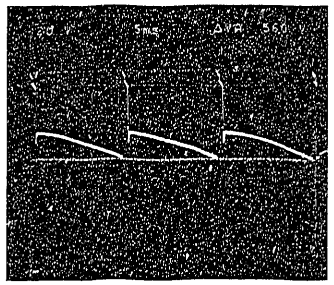
⑩ I201 Pin 47 (AFT Out)



⑪ I201 Pin 49 (RF-AGC Out)



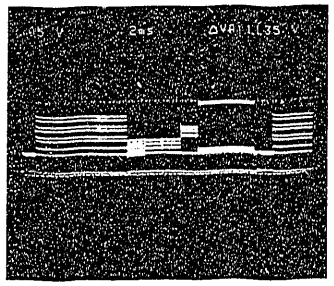
⑫ I620 Pin 12 (V.Out)



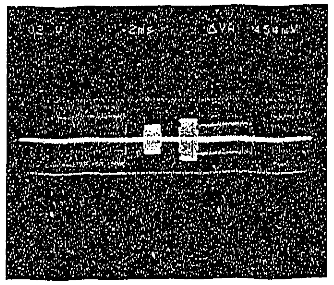
WAVEFORMS AT EACH SECTION

Numbers inside circle correspond to locations shown in the circuit diagram.

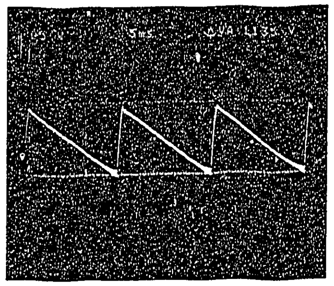
⑬ Q30C Emitter (Y)



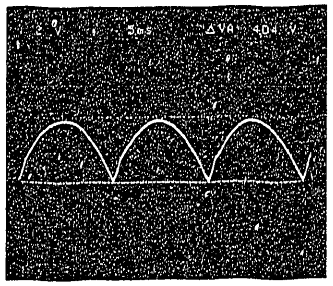
⑭ Q309 Emitter (C)



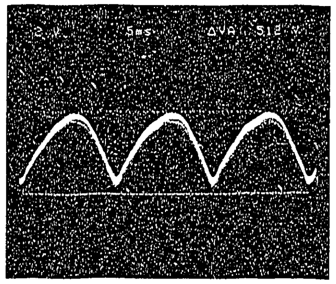
⑮ P65B Pin 1 (Side Pin Amp +)



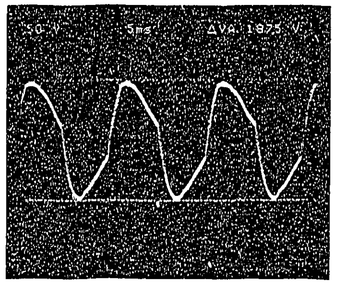
⑯ P65B Pin 2 (Side Pin Amp -)



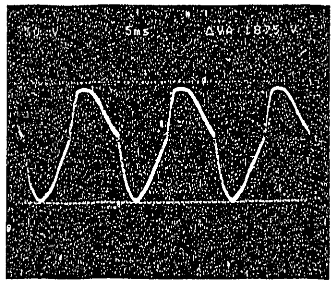
⑰ Q650 Emitter (Side Pin Drive)



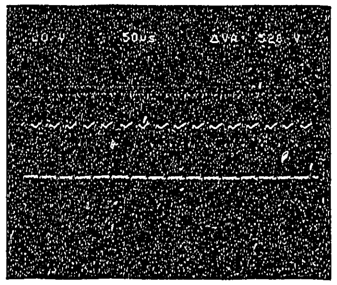
⑱ Q750 Base (Side Pin Adj.)



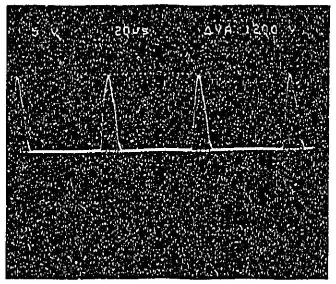
⑲ Q752 Collector (Side Pin Out)



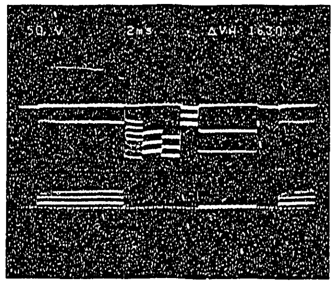
⑳ Q701 Collector (Hor. Drive)



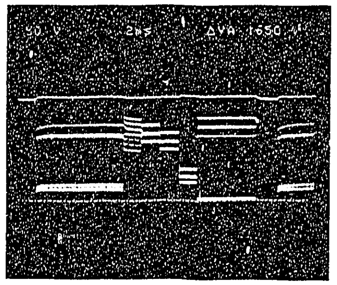
㉑ Q702 Collector (H. Out)



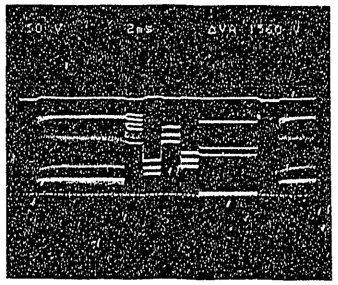
㉒ Q854 Collector (Video Amp. Red)



㉓ Q855 Collector (Video Amp. Green)



㉔ Q856 Collector (Video Amp. Blue)



TROUBLESHOOTING

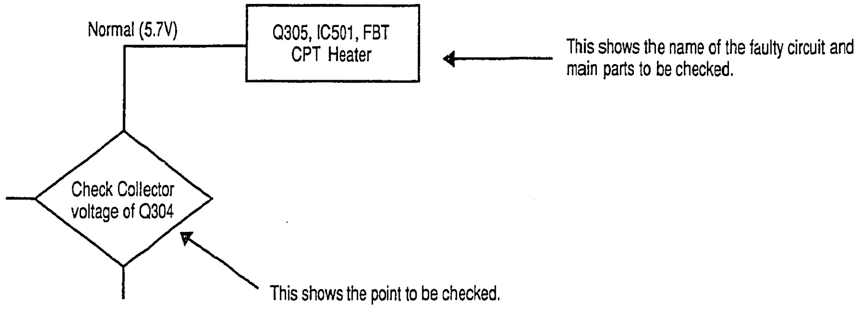
PRODUCT SAFETY NOTE

The shaded and ⚠ marked components have special characteristics important to safety.
Read carefully the Product Safety Notice of each service manual. Don't degrade the safety of the receiver through improper servicing when replacing any of this components.

HOW TO USE THE FLOW CHART

(1) The flow chart shows the following:

This shows the name of the faulty circuit and main parts to be checked.
This shows the point to be checked.


Normal (5.7V)
Q305, IC501, FBT
CPT Heater
Check Collector voltage of Q304

This shows the name of the faulty circuit and main parts to be checked.

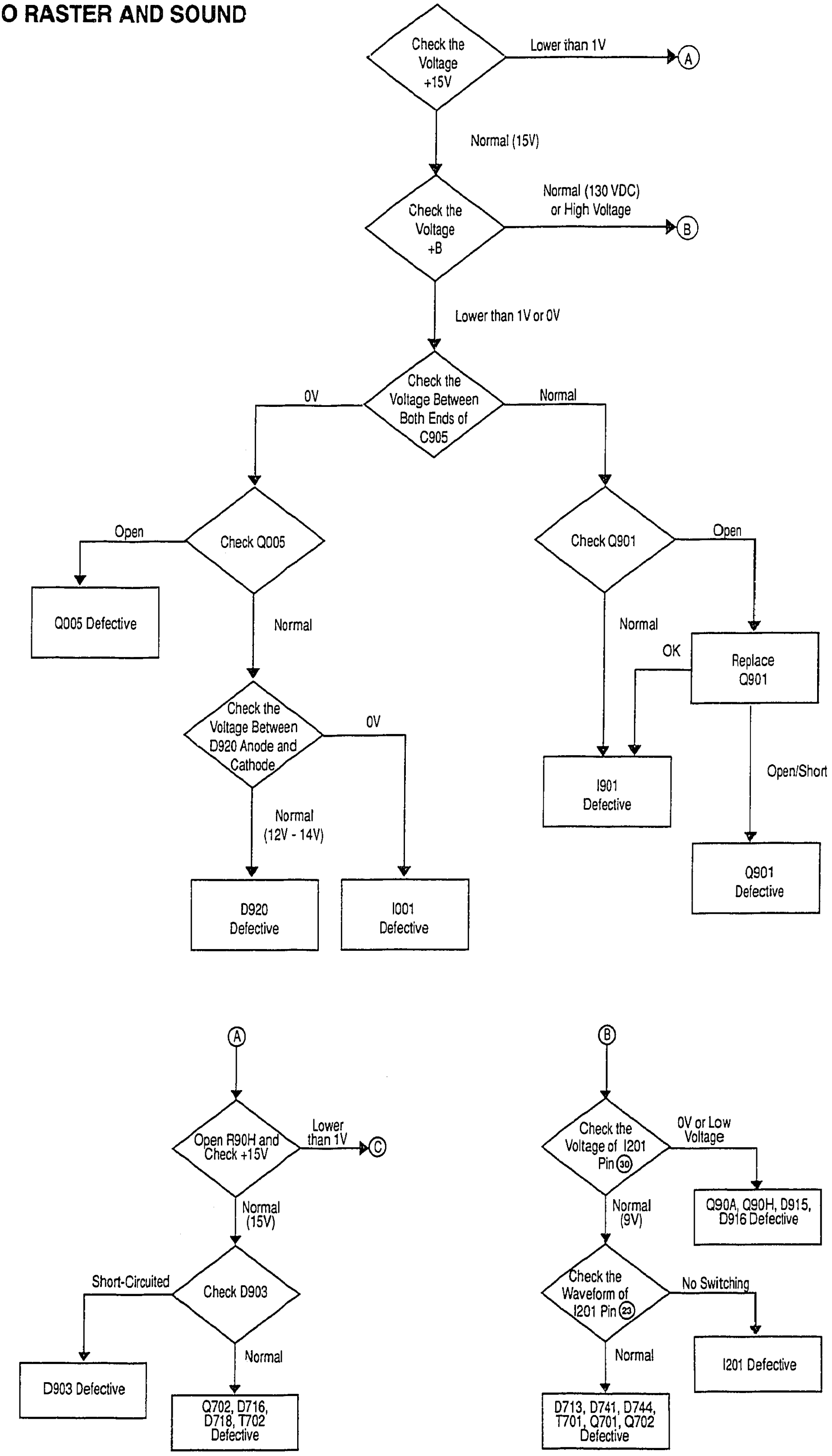
This shows the point to be checked.

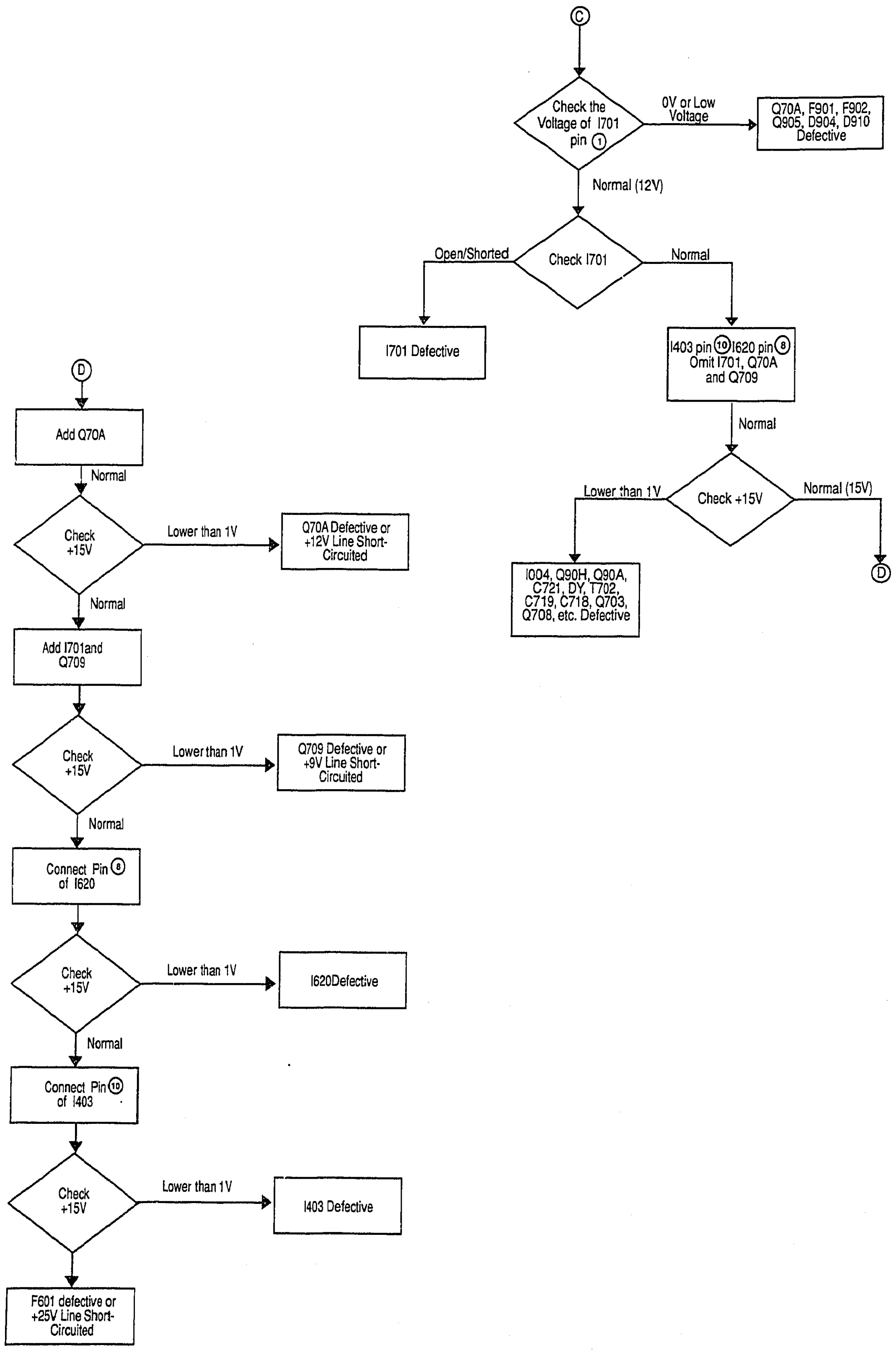
(2) The voltage shown in the chart may differ to some extent depending on the condition of the set and tester.

PRECAUTION ON MAKING MEASUREMENTS AND ON HANDLING

1. When any parts become abnormally hot or there is a smell of burning, cut OFF the power immediately.
2. Do not make shorts between circuits or across terminals except for those specified.
3. When applying a signal for checking purposes, make connection in the alternate current system for any not specified.
4. When measuring the voltages of ICs and TRs, be careful to see that the lead bar of the tester does not touch any other terminal.
5. Measure the voltage correctly.
6. Measure the resistance over a small range.
7. Be sure to switch OFF the power when replacing parts.
8. Do not apply a soldering iron for a long time when replacing parts. (Use a solder-wick.)
9. Use an isolation transformer when troubleshooting.

1. NO RASTER AND SOUND


Check the Voltage +15V
Lower than 1V
A
Normal (15V)
Check the Voltage +B
Normal (130 VDC) or High Voltage
B
Lower than 1V or 0V
Check the Voltage Between Both Ends of C905
0V
Normal
Check Q005
Open
Q005 Defective
Normal
Check the Voltage Between D920 Anode and Cathode
0V
Normal (12V - 14V)
D920 Defective
I001 Defective
Check Q901
Open
Normal
OK
Replace Q901
I901 Defective
Open/Short
Q901 Defective
A
Open R90H and Check +15V
Lower than 1V
C
Normal (15V)
Check D903
Short-Circuited
D903 Defective
Normal
Q702, D716, D718, T702 Defective
B
Check the Voltage of I201 Pin ㉚
0V or Low Voltage
Q90A, Q90H, D915, D916 Defective
Normal (9V)
Check the Waveform of I201 Pin ㉓
No Switching
I201 Defective
Normal
D713, D741, D744, T701, Q701, Q702 Defective


©
Check the Voltage of I701 pin ①
0V or Low Voltage
Q70A, F901, F902, Q905, D904, D910 Defective
Normal (12V)
Check I701
Open/Shorted
I701 Defective
Normal
I403 pin ⑩ I620 pin ⑧ Omit I701, Q70A and Q709
Normal
Check +15V
Lower than 1V
I004, Q90H, Q90A, C721, DY, T702, C719, C718, Q703, Q708, etc. Defective
Normal (15V)
Ⓓ
Ⓓ
Add Q70A
Normal
Check +15V
Lower than 1V
Q70A Defective or +12V Line Short-Circuited
Normal
Add I701and Q709
Check +15V
Lower than 1V
Q709 Defective or +9V Line Short-Circuited
Normal
Connect Pin ⑧ of I620
Check +15V
Lower than 1V
I620Defective
Normal
Connect Pin ⑩ of I403
Check +15V
Lower than 1V
I403 Defective
F601 defective or +25V Line Short-Circuited

REPLACEMENT PARTS LIST

PRODUCT SAFETY NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

ABBREVIATIONS

Capacitors:		Resistors:		Semiconductors:	
CD:	Ceramic Disc	CF:	Carbon Film	TR:	Transistor
PF:	Polyester Film	CC:	Carbon Composition	DI:	Diode
EL:	Electrolytic	MF:	Metal Oxide Film	ZD:	Zener Diode
PP:	Polypropylene	VR:	Variable Resistor	VA:	Varistor
PR:	Paper	WW:	Wire Wound	TH:	Thermistor
TA:	Tantalum	FR:	Fuse Resistor	IC:	Integrated Circuit
TM:	Trimmer	MG:	Metal Glaze		

SYMBOL NO.	PART NO.	PART DESCRIPTION
		CAPACITORS
C001	890087	CD 1000PF +-10% 50V
C002	800047	EL 100MF 6.3V
C003	800072	EL 470MF 6.3V
C004	244141	CD 0.01MF +-10% 50V
C005	890121	CD 33PF +-5% 50V
C006	890121	CD 33PF +-5% 50V
C007	800003	EL 1MF 50V
C008	276717	PF 0.1MF 50V +-5%
C00E	800009	EL 4.7MF 25V
C010	800009	EL 4.7MF 25V
C011	800049	EL 100MF 16V
C012	800009	EL 4.7MF 25V
C013	800015	EL 10MF 16V
C014	800015	EL 10MF 16V
C015	800009	EL 4.7MF 25V
C016	800009	EL 4.7MF 25V
C017	800009	EL 4.7MF 25V
C018	880051	PF 0.033MF +-10% 50V
C019	890086	CD 820PF +-10% 50V
C01A	880048	PF 0.022MF +-10% 50V
C01E	800074	EL 470MF 16V(EXCEPT 27CX3B)
C01H	800015	EL 10MF 16V
C020	800079	EL 1000MF 6.3V(EXCEPT 27CX3B)
C021	276717	PF 0.1MF 50V +-5%(EXCEPT 27CX3B)
C022	880055	PF 0.068MF +-10% 50V
C023	880044	PF 0.01MF +-10% 50V
C024	890087	CD 1000PF +-10% 50V
C025	800009	EL 4.7MF 25V
C030	244105	CD 2200PF +-10% 50V
C031	276717	PF 0.1MF 50V +-5%
C032	0890078R	CD 220PF +-10% 50V
C0516	276717	PF 0.1MF 50V +-5%(35V)
C090	890087	CD 1000PF +-10% 50V
C091	800003	EL 1MF 50V
C092	880048	PF 0.022MF +-10% 50V
C093	800005	EL 2.2MF 50V
C094	800047	EL 100MF 6.3V
C095	890119	CD 27PF +-5% 50V
C096	890119	CD 27PF +-5% 50V
C101	800047	EL 100MF 6.3V
C102	244105	CD 2200PF +-10% 50V
C103	244141	CD 0.01MF +-10% 50V
C104	800082	EL 1000MF 16V
C105	244141	CD 0.01MF +-10% 50V
C106	244105	CD 2200PF +-10% 50V
C107	890063	CD 15PF +-5% 50V
C108	244105	CD 2200PF +-10% 50V
C109	244105	CD 2200PF +-10% 50V
C110	890072	CD 68PF +-5% 50V
C111	890072	CD 68PF +-5% 50V
C112	890072	CD 68PF +-5% 50V
C201	800015	EL 10MF 16V
C202	800082	EL 1000MF 16V
C203	244105	CD 2200PF +-10% 50V
C204	880044	PF 0.01MF +-10% 50V
C205	880053	PF 0.047MF +-10% 50V
C206	890087	CD 1000PF +-10% 50V
C208	880055	PF 0.068MF +-10% 50V
C20A	246464	CD 100PF +-5% 50V
C20C	246448	CD 22PF +-5% 50V
C20E	246463	CD 91PF +-5% 50V
C20F	880044	PF 0.01MF +-10% 50V
C20H	800001	EL 0.47MF 50V
C20K	890063	CD 15PF +-5% 50V
C210	890121	CD 33PF +-5% 50V
C211	890121	CD 33PF +-5% 50V
C212	244105	CD 2200PF +-10% 50V
C213	890089	CD 1500PF +-10% 50V
C214	880053	PF 0.047MF +-10% 50V
C215	800041	EL 47MF 16V
C217	246448	CD 22PF +-5% 50V
C301	800003	EL 1MF 50V
C302	800009	EL 4.7MF 25V
C303	800015	EL 10MF 16V
C304	800003	EL 1MF 50V
C305	244141	CD 0.01MF +-10% 50V
C306	800015	EL 10MF 16V(EXCEPT 27CX3B)
C307	800005	EL 2.2MF 50V
C309	800009	EL 4.7MF 25V
C30A	890074	CD 100PF +-5% 50V
C30C	0090061R	CD 10PF +-0.5% 50V
C30E	244141	CD 0.01MF +-10% 50V
C30K	800015	EL 10MF 16V
C310	880044	PF 0.01MF +-10% 50V
C311	890073	CD 82PF +-5% 50V
C312	800051	EL 100MF 25V(31V/27V)
C313	880044	PF 0.01MF +-10% 50V
C314	880044	PF 0.01MF +-10% 50V
C315	800049	EL 100MF 16V
C316	800009	EL 4.7MF 25V
C317	800049	EL 100MF 16V
C318	800015	EL 10MF 16V
C319	880044	PF 0.01MF +-10% 50V
C31A	800015	EL 10MF 16V
C31C	880044	PF 0.01MF +-10% 50V
C31E	244141	CD 0.01MF +-10% 50V
C31H	800015	EL 10MF 16V(EXCEPT 27CX3B)
C31K	880044	PF 0.01MF +-10% 50V
C320	800015	EL 10MF 16V
C321	244141	CD 0.01MF +-10% 50V
C322	800049	EL 100MF 16V
C323	800003	EL 1MF 50V
C325	800015	EL 10MF 16V
C326	800009	EL 4.7MF 25V
C327	800049	EL 100MF 16V
C330	800042	EL 47MF 25V(35V)
C332	244141	CD 0.01MF +-10% 50V
C3801	800015	EL 10MF 16V(35V)
C3802	800015	EL 10MF 16V(35V)
C3803	800041	EL 47MF 16V(35V)
C3804	800015	EL 10MF 16V(35V)
C3805	244171	CD 0.01MF +80-20% 50V(35V)
C3806	800015	EL 10MF 16V(35V)

PRODUCT SAFETY NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION
C390	890063	CD 15PF +-5% 50V
C391	880044	PF 0.01MF +-10% 50V
C392	0890078R	CD 220PF +-10% 50V
C393	800023	EL 22MF 16V(27CX3B)
C394	880044	PF 0.01MF +-10% 50V (27CX3B)
C399	244141	CD 0.01MF +-10% 50V
C401	800049	EL 100MF 16V
C402	800015	EL 10MF 16V
C403	800015	EL 10MF 16V
C404	800049	EL 100MF 16V
C405	880044	PF 0.01MF +-10% 50V
C406	800009	EL 4.7MF 25V
C407	800009	EL 4.7MF 25V
C408	800039	EL 47MF 10V
C409	276717	PF 0.1MF 50V +-5%
C40A	0292712F	TA 3.3MF 16V
C40C	0292714F	TA 10MF +-10% 16V
C40E	800001	EL 0.47MF 50V
C40H	800015	EL 10MF 16V
C40K	800001	EL 0.47MF 50V
C410	800009	EL 4.7MF 25V
C411	800001	EL 0.47MF 50V
C412	244141	CD 0.01MF +-10% 50V
C413	800009	EL 4.7MF 25V
C414	800001	EL 0.47MF 50V
C415	300001	EL 0.47MF 50V
C416	800001	EL 0.47MF 50V
C417	800001	EL 0.47MF 50V
C418	800007	EL 3.3MF 50V
C419	800049	EL 100MF 16V
C41C	244105	CD 2200PF +-10% 50V
C41E	880048	PF 0.022MF +-10% 50V
C41H	276717	PF 0.1MF 50V +-5%
C41K	880048	PF 0.022MF +-10% 50V
C420	800003	EL 1MF 50V
C421	244111	CD 6800PF +-10% 50V
C422	276719	PF 0.15MF +-5% 50V
C423	800015	EL 10MF 16V
C424	800015	EL 10MF 16V
C425	890087	CD 1000PF +-10% 50V
C426	880056	PF 0.082MF 50V +-10%
C427	248700	CD 680PF +-5% 50V
C426	800023	EL 22MF 16V
C429	244111	CD 6800PF +-10% 50V
C42A	276719	PF 0.15MF +-5% 50V
C42C	276717	PF 0.1MF 50V +-5%
C42E	276717	PF 0.1MF 50V +-5%
C42H	276717	PF 0.1MF 50V +-5%
C42K	276717	PF 0.1MF 50V +-5%
C430	800001	EL 0.47MF 50V
C431	800001	EL 0.47MF 50V
C432	800009	EL 4.7MF 25V
C433	800047	EL 100MF 6.3V
C434	244105	CD 2200PF +-10% 50V
C435	800059	EL 220MF 25V
C436	244105	CD 2200PF +-10% 50V
C437	800059	EL 220MF 25V
C438	800047	EL 100MF 6.3V
C439	276717	PF 0.1MF 50V +-5%
C43A	800075	EL 470MF 25V
C43C	800082	EL 1000MF 16V
C43E	800041	EL 47MF 16V
C43H	276717	PF 0.1MF 50V +-5%
C43K	800082	EL 1000MF 16V
C440	800059	EL 220MF 25V
C441	800015	EL 10MF 16V
C442	800023	EL 22MF 16V
C443	800023	EL 22MF 16V
C444	800042	EL 47MF 25V
C445	800042	EL 47MF 25V
C450	800009	EL 4.7MF 25V
C451	800009	EL 4.7MF 25V
C453	800009	EL 4.7MF 25V
C454	800009	EL 4.7MF 25V
C455	800009	EL 4.7MF 25V (EXCEPT 27CX3B)
C456	800009	EL 4.7MF 25V (EXCEPT 27CX3B)
C457	800009	EL 4.7MF 25V
C458	800009	EL 4.7MF 25V
C470	800015	EL 10MF 16V
C471	800049	EL 100MF 16V
C501	246445	CD 16PF +-5% 50V
C502	244141	CD 0.01MF +-10% 50V
C503	800001	EL 0.47MF 50V
C504	800082	EL 1000MF 16V
C507	800074	EL 470MF 16V
C510	880044	PF 0.01MF +-10% 50V
C601	800003	EL 1MF 50V
C602	890089	CD 1500PF +-10% 50V
C603	880046	PF 0.015MF +-10% 50V
C604	800048	EL 100MF 10V
C605	800003	EL 1MF 50V
C606	890087	CD 1000PF +-10% 50V
C607	244107	CD 3300PF +-10% 50V
C608	800003	EL 1MF 50V
C609	800015	EL 10MF 16V
C60F	0890082R	CD 390PF +-10% 50V
C620	800057	EL 220MF 10V
C621	880042	PF 6800PF +-10% 50V
C622	292716	TA 1MF +-10% 20V
C623	248696	CD 330PF +-5% 50V
C624	800061	EL 220MF 35V
C625	800007	EL 3.3MF 50V
C626	276717	PF 0.1MF 50V +-5%
C627	800007	EL 3.3MF 50V
C628	800003	EL 1MF 50V
C629	800083	EL 1000MF 25V
C62A	800056	EL 220MF 6.3V
C62H	276717	PF 0.1MF 50V +-5%
C630	880053	PF 0.047MF +-10% 50V
C630	890087	CD 1000PF +-10% 50V
C631	800041	EL 47MF 16V
C632	880039	PF 4700PF +-10% 50V
C633	800005	EL 2.2MF 50V
C634	800003	EL 1MF 50V
C636	800005	EL 2.2MF 50V
C637	800018	EL 10MF 50V
C701	890087	CD 1000PF +-10% 50V
⚠ C702	800003	EL 1MF 50V
C703	800003	EL 1MF 50V
C704	880051	PF 0.033MF +-10% 50V
C705	890087	CD 1000PF +-10% 50V
C706	244141	CD 0.01MF +-10% 50V
C707	800049	EL 100MF 16V
C708	800001	EL 0.47MF 50V
C714	880044	PF 0.01MF +-10% 50V
C715	247842	CD 33PF +-5% 500V
C716	880019	PF 0.33MF +-10% 50V
⚠ C718	244729	CD 2200PF +-10% 2KV
⚠ C719	244728	CD 1800PF +-10% 2KV
⚠ C71A	244211	CD 1000PF +-10% 2KV(31V)
⚠ C71A	244212	CD 1200PF +-10% 2KV (35V)
C71C	244105	CD 2200PF +-10% 50V
C71E	0255524F	EL 4.7MF 250V(31UX5B)
C71E	0255524F	EL 4.7MF 250V (27UX5B)
C71F	243506	CD 270PF +-10% 500V
⚠ C71H	244725	CD 1000PF +-10% 2KV (35V)
C71K	0255524F	EL 4.7MF 250V (31UX5B/27UX5B)
C720	244501	CD 1000PF +-10% 500V
⚠ C721	0262429F	PP 0.012MF +-5% 1800V
⚠ C722	299707	PP 0.015MF +-10% 630V
⚠ C723	263001	EL 3.3MF 100V
⚠ C724	299931	PP 0.27MF +-10% 200V
⚠ C725	800003	EL 1MF 50V
⚠ C726	299931	PP 0.27MF +-10% 200V
C72A	244501	CD 1000PF +-10% 500V
C72C	800073	EL 470MF 10V

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SYMBOL NO.	PART NO.	PART DESCRIPTION
C72H	800048	EL 100MF 10V
C730	800084	EL 1000MF 35V
C732	800083	EL 1000MF 25V
C733	800056	EL 220MF 6.3V
C735	800005	EL 2.2MF 50V
C736	244501	CD 1000PF +-10% 500V
⚠ C737	800019	EL 10MF 63V
C738	0255524F	EL 4.7MF 250V
C73A	800041	EL 47MF 16V
C73C	890086	CD 820PF +-10% 50V
C73H	890087	CD 1000PF +-10% 50V
C742	254823	EL 100MF 160V
C747	276717	PF 0.1MF 50V +-5%
C74A	0258130F	EL 330MF 100V (35V)
C74H	243508	CD 390PF +-10% 500V (35V)
C750	800005	EL 2.2MF 50V
C751	800044	EL 47MF 50V
C752	0284623R	EL 1MF 50V
C755	880035	PF 2200PF +-10% 50V
C756	800015	EL 10MF 16V
C757	800015	EL 10MF 16V
C851	800049	EL 100MF 16V
C852	890087	CD 1000PF +-10% 50V
C853	0255524F	EL 4.7MF 250V
C856	0244729F	CD 2200PF +-10% 2KV
C860	890087	CD 1000PF +-10% 50V
C861	890087	CD 1000PF +-10% 50V
C862	890087	CD 1000PF +-10% 50V
C864	0890079R	CD 270PF +-10% 50V
C865	890083	CD 470PF +-10% 50V
C866	890077	CD 180PF +-10% 50V
C870	890076	CD 150PF +-10% 50V
C872	890074	CD 100PF +-5% 50V
C873	890074	CD 100PF +-5% 50V
C874	890074	CD 100PF +-5% 50V
C875	890076	CD 150PF +-10% 50V
C887	890076	CD 150PF +-10% 50V
C888	890087	CD 1000PF +-10% 50V
C889	244171	CD 0.01MF +80-20% 50V
⚠ C901	279697	PF 0 1MF +-20% 250V
⚠ C902	0248593F	CD 4700PF +80-20% 250V
⚠ C903	0248593F	CD 4700PF +80-20% 250V
⚠ C904	244505	CD 2200PF +-10% 500V
⚠ C905	253891	EL 470MF 200V
C906	253957	EL 22MF 160V
C907	800064	EL 330MF 6.3V
C908	800003	EL 1MF 50V
C909	800001	EL 0.47MF 50V
⚠ C90A	0248593F	CD 4700PF +80-20% 250V
C90C	880044	PF 0.01MF +-10% 50V
C90E	880031	PF 1000PF +-10% 50V
C90F	880044	PF 0.01MF +-10% 50V
C90H	0284891F	EL 150MF 200V
C90K	880066	PF 0.47MF +-10% 50V
C910	880044	PF 0.01MF +-10% 50V
C911	0890081R	CD 330PF +-10% 50V
C912	0258192F	EL 2200MF 25V
C913	890087	CD 1000PF +-10% 50V
C914	800024	EL 22MF 25V
C915	800015	EL 10MF 16V
C917	0245612F	CD 4700PF +-10% 1KV
C919	245608	CD 1000PF +-10% 1000V
C91C	0890082R	CD 390PF +-10% 50V
C91H	800061	EL 220MF 35V
C91K	276717	PF 0.1MF 50V +-5%
⚠ C920	279697	PF 0.1MF +-20% 250V
⚠ C969	248593	CD 4700PF +80-20% 250V
CA01	800047	EL 100MF 6.3V (35V)
CMF1	800015	EL 10MF 16V (35V)
CMF2	800049	EL 100MF 16V (35V)
CMF3	0284623R	EL 1MF 50V (35V)
CP0501	2381126	R/C RECEIVER SPS-409-1F(35V)
CW01	0284621R	EL 0.47MF 50V (31UX5B/27UX5B)
CW04	0890081R	CD 330PF +-10% 50V (31UX5B/27UX5B)
CW05	800049	EL 100MF 16V (31UX5B/27UX5B)
CW06	880044	PF 0.01MF +-10% 50V (31UX5B/27UX5B)
CW09	890074	CD 100PF +-5% 50V (31UX5B/27UX5B)
CW10	244541	CD 0.01MF +-10% 500V (31UX5B/27UX5B)
CW11	890074	CD 100PF +-5% 50V (31UX5B/27UX5B)
CW12	244509	CD 4700PF +-10% 500V (31UX5B/27UX5B)
CW13	0253959F	EL 47MF 160V (31UX5B/27UX5B)
CW14	0253959F	EL 47MF 160V (31UX5B/27UX5B)
CW15	253957	EL 22MF 160V (31UX5B/27UX5B)
CW16	247848	CD 56PF +-5% 500V (31UX5B/27UX5B)
CW17	800074	EL 470MF 16V (31UX5B/27UX5B)
CW18	880044	PF 0.01MF +-10% 50V (31UX5B/27UX5B)
CW19	0253959F	EL 47MF 160V (31UX5B/27UX5B)
CW20	244541	CD 0.01MF +-10% 500V (31UX5B/27UX5B)
CW22	276717	PF 0.1MF 50V +-5% (31UX5B/27UX5B)
CW23	800049	EL 100MF 16V (31UX5B/27UX5B)
CW24	800041	EL 47MF 16V (31UX5B/27UX5B)
CW27	880044	PF 0.01MF +-10% 50V (31UX5B/27UX5B)
CW28	890077	CD 180PF +-10% 50V (31UX5B/27UX5B)
CY01	890083	CD 470PF +-10% 50V (35V)
CY02	890083	CD 470PF +-10% 50V (35V)
CY03	880044	PF 0.01MF +-10% 50V (35V)
CY04	800015	EL 10MF 16V (35V)
CY05	276717	PF 0.1MF 50V +-5% (35V)
CY06	890076	CD 150PF +-10% 50V (35V)
CY07	800049	EL 100MF 16V (35V)
CY08	880044	PF 0.01MF +-10% 50V (35V)
		DIODES
D001	2398611	DI 1SS254
D002	2398611	DI 1SS254 (27CX3B)
D003	2398611	DI 1SS254
D004	2398611	DI 1SS254
D005	2339833M	ZD HZS5A3
D006	2398611	DI 1SS254
D007	2398611	DI 1SS254
D009	2398611	DI 1SS254
D00A	2398611	DI 1SS254
D00C	2398611	DI 1SS254
D00E	2398611	DI 1SS254
D00H	2398611	DI 1SS254
D00K	2398611	DI 1SS254
D010	2398611	DI 1SS254
D011	2398611	DI 1SS254
D012	2339889	ZD HZS12C3 (EXCEPT 27CX3B)
D013	2339889	ZD HZS12C3 (EXCEPT 27CX3B)
D014	2339889	ZD HZS12C3 (EXCEPT 27CX3B)
D016	2398611	DI 1SS254
D017	2398611	DI 1SS254 (EXCEPT 27CX3B)
D020	2398611	DI 1SS254
D022	2398611	DI 1SS254
D023	2339868M	ZD HZS9C2
D024	2398611	DI 1SS254
D101	2339971	ZD HZS33-1
D301	2398611	DI 1SS254
D302	2398611	DI 1SS254
D303	2398611	DI 1SS254
D304	2339893M	DI HZS15-3 (T)
D305	2339868M	ZD HZS9C2
D306	2339868M	ZD HZS9C2
D307	2398611	DI 1SS254
D308	2398611	DI 1SS254
D310	2398611	DI 1SS254 (31V/27V)
D390	2398611	DI 1SS254
D391	2398611	DI 1SS254
D393	2339868M	ZD HZS9C2 (31UX5B/27UX5B)
D401	2339812M	ZD HZS3A2
D402	2339812M	ZD HZS3A2
D403	2398611	DI 1SS254
D404	2398611	DI 1SS254
D405	2398611	DI 1SS254

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SYMBOL NO.	PART NO.	PART DESCRIPTION
D406	2398611	DI 1SS254
D407	2398611	DI 1SS254
D410	2339889	ZD HZS12C3 (35V)
D501	2339868M	ZD HZS9C2
D502	2339868M	ZD HZS9C2
D503	2339868M	ZD HZS9C2
D601	2398611	DI 1SS254
D602	2398611	DI 1SS254
D605	2398611	DI 1SS254
D620	2339862M	ZD HZS9A2
D621	23394911	DI AM01Z
D622	23394911	DI AM01Z
D623	2398611	DI 1SS254
D626	2398611	DI 1SS254 (EXCEPT 27CX4B/27CX3B)
D627	2398611	DI 1SS254
D628	2398611	DI 1SS254
D701	2398611	DI 1SS254
D703	2398611	DI 1SS254
D704	2398611	DI 1SS254
D705	CH00031M	DI AU02V1
⚠ D707	2339242	ZD HZS3S-2L
⚠ D708	2339223	ZD HZS27-3L
D712	2339251	ZD HZS36-1L
D713	23394911	DI AM01Z
D714	2398611	DI 1SS254
D715	2338944	DI FML-G12S(F) (35V)
⚠ D716	2348511	DI RS3FS
⚠ D717	2348511	DI RS3FS (35V)
⚠ D718	2336612	DI RU3AM
D719	2398611	DI 1SS254
D71A	23394811	DI AS01Z
D720	2398611	DI 1SS254
D721	2335991	ZD HZT-33
D722	2398611	DI 1SS254
D72A	2331809	ZD HZ-6 (C3)
D72H	2331812	ZD HZ7 (A2) SI
D73A	2339851	ZD HZS7A1
⚠ D73C	23394811	DI AS01Z
D73E	CH00031M	DI AU02V1 (31UX5B/27UX5B)
D73F	2398611	DI 1SS254
D73H	CH00031M	DI AU02V1
D73K	CH00031M	DI AU02V1 (31UX5B/27UX5B)
D740	2398611	DI 1SS254
D741	23394911	DI AM01Z
D742	2339851	ZD HZS7A1
D743	2339834	ZD HZS5B1
D744	2339882M	ZD HZS12A2
D745	23394911	DI AM01Z (35V/27V)
D750	2398611	DI 1SS254
D781	2339822	ZD HZS4A2
D801	2398611	DI 1SS254
D802	2398611	DI 1SS254
D803	2331781	ZD HZ4 (A1)
D810	2339601M	ZD HZS2ALL
D811	2339601M	ZD HZS2ALL
D812	2339601M	ZD HZS2ALL
D821	2398611	DI 1SS254
D822	2398611	DI 1SS254
D823	2398611	DI 1SS254
⚠ D901	2342062	DI D3SBA60-4103
D902	23394911	DI AM01Z
D903	23394911	DI AM01Z
D904	2331991	DI R02A
D905	23394811	DI AS01Z
D906	2339876	ZD HZS11B3
D907	23394811	DI AS01Z
D908	23394811	DI AS01Z
D909	2339812M	ZD HZS3A2
⚠ D90A	2398611	DI 1SS254
D90C	2398611	DI 1SS254
D90E	2339835M	ZD HZS5B2TA
D90F	2398611	DI 1SS254
D90H	2339835M	ZD HZS5B2TA

SYMBOL NO.	PART NO.	PART DESCRIPTION
D90K	2339833M	ZD HZS5A3
D910	2338944	DI FML-G12S (F)
D912	23394811	DI AS01Z
D913	2339835M	ZD HZS5B2TA
D914	23394911	DI AM01Z
D915	2339848	ZD HZS-6-C2
D916	2339848	ZD HZS-6-C2
D917	23394911	DI AM01Z
D920	2398611	DI 1SS254
D921	2339191M	ZD HZS20-1L TA
DW01	23394911	DI AM01Z (31UX5B/27UX5B)
DW02	23394911	DI AM01Z (31UX5B/27UX5B)
DW03	23394911	DI AM01Z (31UX5B/27UX5B)
DW04	23394911	DI AM01Z (31UX5B/27UX5B)
DW05	2398611	DI 1SS254 (31UX5B/27UX5B)
DW06	2398611	DI 1SS254 (31UX5B/27UX5B)
ZD0501	2339885	ZD HZS12B2(35V)
ZD0502	2339885	ZD HZS12B2 (35V)
ZD3801	2331154	ZD HZ12 (A1-3/B1-3/C1-3)(35V)
ZD3802	2331154	ZD HZ12 (A1-3/B1-3/C1-3)(35V)
		REMOTE CONTROLS
E301	2573972	R/C CLU-851GR (31UX5B/27UX5B)
E301	2573922	R/C CLU-692GR (35TX10B/31CX4B/27CX4B)
E301	2573921	R/C CLU-691GR (27CX3B)
		FUSES
⚠ F601	2722382	FUSE DC 0.75A
⚠ F901	2721053	UL FUSE 5A
⚠ F902	2722353	FUSE 1.6A
		INTEGRATED CIRCUITS
I001	CP00201	IC LC864148A-5505
I002	2381111	IC M6M80021L
I003	2917391	IC MSC11371RS
I004	2020461	IC AN78L05
⚠ I201	2004133	IC LA7674
I301	2003981	IC BA7604N (LINEAR)
I302	CZ00081	IC LA7952
I401	2004592	IC AN5817K
I402	CK00121	IC UPC1892
⚠ I403	2004341	IC AN7178 (LINEAR)
I404	2366301	IC UPD4052BC
⚠ I620	2003541	IC LA7838 (LINEAR)
I621	CP00401	IC UPC4558C
I701	2366365	IC AN7809
⚠ I720	2000521	IC PC713F6 (LINEAR)
⚠ I901	2912177	IC STR30130
⚠ I902	2000521	IC PC713F6 (LINEAR)
⚠ I903	2000465	IC PS2501-1 (KD/LD) (PHOTO COUPLER)
⚠ I904	2000465	IC PS2501-1 (KD/LD) (PHOTO COUPLER)
IY01	2381211	IC M51494L (35V)
		COILS
L001	2122253	LA AXIAL COIL 100 MICRO H
L003	2122942	LA AXIAL COIL 8.2 MICRO H +-10%
L004	2122942	LA AXIAL COIL 8.2 MICRO H +-10%
L005	2122942	LA AXIAL COIL 8.2 MICRO H +-10%
L006	2122942	LA AXIAL COIL 8.2 MICRO H +-10%
L007	2120482	FILTER COIL 100 MICRO H +-10% (EXCEPT 27CX3B)
L008	2120482	FILTER COIL 100 MICRO H +-10% (EXCEPT 27CX3B)
L010	BH00101	RADIAL COIL
L101	2122253	LA AXIAL COIL 100 MICRO H
L102	2122253	LA AXIAL COIL 100 MICRO H
L103	2122927	LA AXIAL COIL 0.68 MICRO H
L201	2122253	LA AXIAL COIL 100 MICRO H
L202	2145982	LA AXIAL COIL
L203	2143672	IF COIL
L204	2143678	IF COIL

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SYMBOL NO.	PART NO.	PART DESCRIPTION
L205	2142445	CARRIER FILTER AFS COIL
L206	2122949	LA AXIAL COIL 33 MICRO H +-10%
L207	2122944	LA AXIAL COIL 12 MICRO H
L208	2122952	LAL AXALCOIL
L301	2122253	LA AXIAL COIL 100 MICRO H
L302	2141148	1H DL COIL
L303	2122939	LA AXIAL COIL 5.6 MICRO H
L304	2122943	LA AXIAL COIL 10 MICRO H +-10%
L305	2122947	LA AXIAL COIL 22 MICRO H +-10% (31CX4B)
L305	2122943	LA AXIAL COIL 10 MICRO H +-10% (27CX4B/27CX3B)
L305	2122943	LA AXIAL COIL 10 MICRO H +-10% (35V)
L308	2122951	LA AXIAL COIL 39 MICRO H +-10%
L309	2122956	LA AXIAL COIL 100 MICRO H +-10%
L311	2122253	LA AXIAL COIL 100 MICRO H
L601	2122956	LA AXIAL COIL 100 MICRO H +-10%
L602	2122099	FILTER COIL 18 MICRO H (35V)
L700	2122938	LA AXIAL COIL 4.7 MICRO H
L701	2122652	FERRITE CORE
L702	2124513	LINEARITY COIL
L703	2771893	FERRITE BEADS CORE
⚠ L704	2275381	CHOKING COIL
L705	2122248	LA AXIAL COIL 47 MICRO H
L709	2122094	FIXED COIL
⚠ L710	2122244	LA AXIAL COIL 22 MICROH
L711	2122652	FERRITE CORE
L712	BH00144	CHOKE COIL (31UX5B/27UX5B)
L713	2771893	FERRITE BEADS CORE
L714	2771893	FERRITE BEADS CORE
L71A	2122652	FERRITE CORE
L850	2120482	FILTER COIL 100 MICRO H +-10%
L851	2122945	LA AXIAL COIL 15 MICRO H +-10%
L852	2122945	LA AXIAL COIL 15 MICRO H +-10%
L853	2122945	LA AXIAL COIL 15 MICRO H +-10%
L854	2122956	LA AXIAL COIL 100 MICRO H +-10%
L855	2122956	LA AXIAL COIL 100 MICRO H +-10%
L856	2122956	LA AXIAL COIL 100 MICRO H +-10%
L861	2123468	FERRITE BEADS CORE LEAD 0.8
L862	2123468	FERRITE BEADS CORE LEAD 0.8
L863	2123468	FERRITE BEADS CORE LEAD 0.8
L864	2123468	FERRITE BEADS CORE LEAD 0.8
L865	2123468	FERRITE BEADS CORE LEAD 0.8
L866	2123468	FERRITE BEADS CORE LEAD 0.8
L867	2123468	FERRITE BEADS CORE LEAD 0.8
L868	2123468	FERRITE BEADS CORE LEAD 0.8
L869	2123468	FERRITE BEADS CORE LEAD 0.8
L871	2123468	FERRITE BEADS CORE LEAD 0.8
⚠ L901	2272293	LINE FILTER LL (T)
⚠ L902	2121676	FIXED COIL
L905	2122652	FERRITE CORE
⚠ L905	2229022	DEGAUSSING COIL (31V/27V)
L906	2122652	FERRITE CORE
L907	2122652	FERRITE CORE
L908	2122652	FERRITE CORE
L909	2122099	FILTER COIL 18 MICRO H
L90A	2122263M	LA AXIAL COIL
L920	2122653	FERRITE BEADS CORE
L922	2220586	CHOKE COIL TSL0707470K
⚠ L970	2229023	DEGAUSSING COIL (35V)
LA01	2122253	LA AXIAL COIL 100 MICRO H(35V)
LMFC	BZ00411	M.F. COIL (35V)
LW01	2122943	LA AXIAL COIL 10 MICRO H +-10% (31UX5B/27UX5B)
LW02	2123468	FERRITE BEADS CORE LEAD 0.8 (31UX5B/27UX5B)
LW03	2123468	FERRITE BEADS CORE LEAD 0.8 (31UX5B/27UX5B)
LW04	2123468	FERRITE BEADS CORE LEAD 0.8 (31UX5B/27UX5B)
LY01	2122253	LA AXIAL COIL 100 MICRO H (35V)
		INSTRUCTION BOOKS
N201	QR00621	INSTRUCTION MANUAL (31V)
N201	QR00921	INSTRUCTION MANUAL (27V)
N201	QR00611	INSTRUCTION MANUAL (35V)

SYMBOL NO.	PART NO.	PART DESCRIPTION
		TRANSISTORS
Q001	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q002	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q003	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q004	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q005	2320663	TR 2SC1213AC SI 80MHZ 400MW
Q006	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q008	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q009	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q101	2320144	TR 2SC1906
Q201	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q202	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q203	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q301	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q302	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q303	2320596	TR 2SC458C/D SI 230MHZ 200MW (31V/27V)
Q305	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q306	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q308	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q309	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q30A	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q30C	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q30E	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q30H	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q30K	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q310	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q312	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q314	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q315	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q3801	2320598	TR 2SC458B/C/D (35V)
Q3802	2320598	TR 2SC458B/C/D (35V)
Q401	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q402	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q403	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q404	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q405	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q406	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q407	2320643	TR 2SC1213C SI 80MHZ 400MW
Q50C	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q601	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q602	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q603	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q650	2320598	TR 2SC458B/C/D SI 230MHZ 200MW
Q701	2323523	TR 2SD789 (D)
⚠ Q702	2315272	TR 2SC4589-03
⚠ Q703	2320637	TR 2SA673C/D SI 80MHZ 400MW
⚠ Q708	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q709	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q70A	2323431	TR 2SC1983 SI
Q70H	2315411	TR 2SD2012
Q710	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q750	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q751	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q752	2320663	TR 2SC1213AC SI 80MHZ 400MW
Q752	2323434	TR 2SC1983 O/Y SI
Q753	2321321	TR 2SA844 (D/E)
Q761	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q801	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q802	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q803	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q804	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q805	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q806	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q807	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q808	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q809	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q810	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q811	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q812	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q813	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q814	2320596	TR 2SC458C/D SI 230MHZ 200MW

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SYMBOL NO.	PART NO.	PART DESCRIPTION
Q815	2320637	TR 2SA673C/D SI 80MHZ 400MW
Q851	2320591	TR 2SC458B/C SI 230MHZ 200MW
Q852	2320591	TR 2SC458B/C SI 230MHZ 200MW
Q853	2320591	TR 2SC458B/C SI 230MHZ 200MW
Q854	2315491	TR 2SC4544
Q855	2315491	TR 2SC4544
Q856	2315491	TR 2SC4544
Q857	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q864	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q901	2327883	TR 2SA1207
Q904	2326216	TR 2SC3116 S/T
⚠ Q905	2328451	TR FN651
Q906	2320631	TR 2SA673B/C SI 80MHZ 400MW
Q907	2323526	TR 2SD789 D/E
Q908	2320591	TR 2SC458B/C SI 230MHZ 200MW
Q909	2320596	TR 2SC458C/D SI 230MHZ 200MW
Q90A	2320681	TR 2SA673A B/C SI 80MHZ 400MW
Q90C	2326631	THYRISTOR CR5AS-8
Q90H	2320663	TR 2SC1213AC SI 80MHZ 400MW
QMF1	2320643	TR 2SC1213C (35V)
QW02	2320598	TR 2SC458B/C/D SI 230MHZ 200MW (31/27UX5B)
QW03	2320598	TR 2SC458B/C SI 230MHZ 200MW (31/27UX5B)
QW04	2320598	TR 2SC458B/C/ SI 230MHZ 200MW (31/27UX5B)
QW05	2320598	TR 2SC458B/C SI 230MHZ 200MW (31/27UX5B)
QW06	2320598	TR 2SC458B/C SI 230MHZ 200MW (31/27UX5B)
QW07	2320643	TR 2SC1213C SI 80MHZ 400MW (31/27UX5B)
QW08	2321351	TR 2SA836/844 SI 200MHZ 300MW (31/27UX5B)
QW09	2315381	TR 2SA1837 (31UX5B/27UX5B)
QW10	2315391	TR 2SC4793 (31UX5B/27UX5B)
QW11	2320598	TR 2SC458B/C/ SI 230MHZ 200MW (31/27UX5B)
QW12	2320598	TR 2SC458B/C/ SI 230MHZ 200MW (31/27UX5B)
QW13	2320596	TR 2SC458C/D SI 230MHZ 200MW (31/27UX5B)
QY01	2320596	TR 2SC458C/D (35V)
QY02	2320596	TR 2SC458C/D (35V)
		RESISTORS
R001	700041	CF 1K OHM +-5% 1/16W
R002	700041	CF 1K OHM +-5% 1/16W
R003	700041	CF 1K OHM +-5% 1/16W
R004	700041	CF 1K OHM +-5% 1/16W (31V/27V)
R005	700041	CF 1K OHM +-5% 1/16W
R006	700041	CF 1K OHM +-5% 1/16W
R007	700041	CF 1K OHM +-5% 1/16W
R008	700049	CF 4.7K OHM +-5% 1/16W
R009	700041	CF 1K OHM +-5% 1/16W
R00A	700041	CF 1K OHM +-5% 1/16W
R00C	700067	CF 100K OHM +-5% 1/16W
R00E	700051	CF 5.6K OHM +-5% 1/16W
R00H	700067	CF 100K OHM +-5% 1/16W
R00K	700064	CF 56K OHM +-5% 1/16W
R010	700045	CF 2.2K OHM +-5% 1/16W
R011	700049	CF 4.7K OHM +-5% 1/16W
R012	187066	CF 1.1K OHM +-5% 1/16W (31V/27V)
R013	700041	CF 1K OHM +-5% 1/16W (31V/27V)
R014	700043	CF 1.5K OHM +-5% 1/16W (31V/27V)
R015	700046	CF 2.7K OHM +-5% 1/16W (31V/27V)
R016	700049	CF 4.7K OHM +-5% 1/16W (31V/27V)
R017	700032	CF 220 OHM +-5% 1/16W
R019	700047	CF 3.3K OHM +-5% 1/16W
R01A	700041	CF 1K OHM +-5% 1/16W
R01C	700054	CF 10K OHM +-5% 1/16W
R01E	700041	CF 1K OHM +-5% 1/16W
R01H	700041	CF 1K OHM +-5% 1/16W
R01K	700041	CF 1K OHM +-5% 1/16W
R020	700041	CF 1K OHM +-5% 1/16W
R021	700036	CF 470 OHM +-5% 1/16W
R022	700058	CF 22K OHM +-5% 1/16W
R023	700048	CF 3.9K OHM +-5% 1/16W
R024	700038	CF 680 OHM +-5% 1/16W
R025	700041	CF 1K OHM +-5% 1/16W
R026	700052	CF 6.8K OHM +-5% 1/16W
R027	700045	CF 2.2K OHM +-5% 1/16W

SYMBOL NO.	PART NO.	PART DESCRIPTION
R028	700043	CF 1.5K OHM +-5% 1/16W
R029	700052	CF 6.8K OHM +-5% 1/16W
R02A	700056	CF 15K OHM +-5% 1/16W
R02C	700059	CF 27K OHM +-5% 1/16W
R02E	700056	CF 15K OHM +-5% 1/16W
R02H	700058	CF 22K OHM +-5% 1/16W
R02K	700059	CF 27K OHM +-5% 1/16W
R030	700056	CF 15K OHM +-5% 1/16W
R031	700056	CF 15K OHM +-5% 1/16W
R032	700047	CF 3.3K OHM +-5% 1/16W
R033	700052	CF 6.8K OHM +-5% 1/16W
R034	700053	CF 8.2K OHM +-5% 1/16W
R035	700056	CF 15K OHM +-5% 1/16W
R036	700055	CF 12K OHM +-5% 1/16W
R037	700041	CF 1K OHM +-5% 1/16W
R038	700041	CF 1K OHM +-5% 1/16W
R039	700041	CF 1K OHM +-5% 1/16W
R03A	700041	CF 1K OHM +-5% 1/16W
R03C	700041	CF 1K OHM +-5% 1/16W
R03E	700041	CF 1K OHM +-5% 1/16W
R03H	700041	CF 1K OHM +-5% 1/16W
R03K	700041	CF 1K OHM +-5% 1/16W
R040	700041	CF 1K OHM +-5% 1/16W (EXCEPT 27CX3B)
R041	700041	CF 1K OHM +-5% 1/16W
R042	700041	CF 1K OHM +-5% 1/16W
R043	700041	CF 1K OHM +-5% 1/16W
R044	700054	CF 10K OHM +-5% 1/16W
R045	700063	CF 47K OHM +-5% 1/16W
R046	700067	CF 100K OHM +-5% 1/16W
R047	700045	CF 2.2K OHM +-5% 1/16W
R048	700047	CF 3.3K OHM +-5% 1/16W
R049	187086	CF 7.5K OHM +-5% 1/16W
R04A	700045	CF 2.2K OHM +-5% 1/16W
R04C	700041	CF 1K OHM +-5% 1/16W
R04E	700041	CF 1K OHM +-5% 1/16W
R04H	700045	CF 2.2K OHM +-5% 1/16W
R04K	700041	CF 1K OHM +-5% 1/16W
R050	700041	CF 1K OHM +-5% 1/16W
R0504	100065	CF 1K OHM +-5% 1/8W (35V)
R051	700041	CF 1K OHM +-5% 1/16W
R0516	100065	CF 1K OHM +-5% 1/8W (35V)
R0517	700043	CF 1.5K OHM +-5% 1/16W (35V)
R0518	700046	CF 2.7K OHM +-5% 1/16W (35V)
R0519	700049	CF 4.7K OHM +-5% 1/16W (35V)
R0520	100065	CF 1K OHM +-5% 1/8W (35V)
R053	700053	CF 8.2K OHM +-5% 1/16W
R054	700054	CF 10K OHM +-5% 1/16W
R055	700054	CF 10K OHM +-5% 1/16W
R056	700054	CF 10K OHM +-5% 1/16W
R057	700041	CF 1K OHM +-5% 1/16W
R058	700041	CF 1K OHM +-5% 1/16W
R059	700052	CF 6.8K OHM +-5% 1/16W
R05A	700054	CF 10K OHM +-5% 1/16W
R05C	700041	CF 1K OHM +-5% 1/16W
R05E	700054	CF 10K OHM +-5% 1/16W
R05H	700054	CF 10K OHM +-5% 1/16W
R05K	700058	CF 22K OHM +-5% 1/16W
R060	700058	CF 22K OHM +-5% 1/16W
R061	700061	CF 33K OHM +-5% 1/16W
R062	100065	CF 1K OHM +-5% 1/8W (EXCEPT 27CX3B)
R063	100065	CF 1K OHM +-5% 1/8W (EXCEPT 27CX3B)
R064	100065	CF 1K OHM +-5% 1/8W (EXCEPT 27CX3B)
R065	700045	CF 2.2K OHM +-5% 1/16W
⚠ R066	119514	FR 10 OHM +-5% 1/4W (EXCEPT 27CX3B)
R067	700036	CF 470 OHM +-5% 1/16W
R068	700041	CF 1K OHM +-5% 1/16W
R069	700041	CF 1K OHM +-5% 1/16W
R06A	700041	CF 1K OHM +-5% 1/16W (31UX5B/27UX5B)
R06C	700051	CF 5.6K OHM +-5% 1/16W
R06E	700049	CF 4.7K OHM +-5% 1/16W
R06F	700054	CF 10K OHM +-5% 1/16W
R06H	700041	CF 1K OHM +-5% 1/16W
R06K	700067	CF 100K OHM +-5% 1/16W

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SYMBOL NO.	PART NO.	PART DESCRIPTION
R070	700049	CF 4.7K OHM +-5% 1/16W
R071	700054	CF 10K OHM +-5% 1/16W (31V/27V)
R072	700047	CF 3.3K OHM +-5% 1/16W
R073	700047	CF 3.3K OHM +-5% 1/16W
R074	700047	CF 3.3K OHM +-5% 1/16W
R080	700054	CF 10K OHM +-5% 1/16W
R081	700054	CF 10K OHM +-5% 1/16W
R083	700049	CF 4.7K OHM +-5% 1/16W
R084	700058	CF 22K OHM +-5% 1/16W
R085	700067	CF 100K OHM +-5% 1/16W
R086	700031	CF 180 OHM +-5% 1/16W
R087	700041	CF 1K OHM +-5% 1/16W
R08C	700056	CF 15K OHM +-5% 1/16W
R091	700058	CF 22K OHM +-5% 1/16W
R094	700049	CF 4.7K OHM +-5% 1/16W
R095	700041	CF 1K OHM +-5% 1/16W
R096	700054	CF 10K OHM +-5% 1/16W
R097	700054	CF 10K OHM +-5% 1/16W
R098	700049	CF 4.7K OHM +-5% 1/16W
R099	700054	CF 10K OHM +-5% 1/16W
R09A	700054	CF 10K OHM +-5% 1/16W
R09C	700041	CF 1K OHM +-5% 1/16W
R09H	700054	CF 10K OHM +-5% 1/16W
R09K	700041	CF 1K OHM +-5% 1/16W
R101	700031	CF 180 OHM +-5% 1/16W
R102	700046	CF 2.7K OHM +-5% 1/16W
R103	700014	CF 10 OHM +-5% 1/16W
R104	700042	CF 1.2K OHM +-5% 1/16W
R105	700023	CF 47 OHM +-5% 1/16W
R106	700033	CF 270 OHM +-5% 1/16W
R107	100065	CF 1K OHM +-5% 1/8W
R108	187040	CF 91 OHM +-5% 1/16W
R109	700048	CF 3.9K OHM +-5% 1/16W
R110	700048	CF 3.9K OHM +-5% 1/16W
R201	700058	CF 22K OHM +-5% 1/16W
R202	150287	VR 10K OHM-B
R203	700067	CF 100K OHM +-5% 1/16W
R204	700043	CF 1.5K OHM +-5% 1/16W
R205	700049	CF 4.7K OHM +-5% 1/16W
R206	700027	CF 100 OHM +-5% 1/16W
R207	700041	CF 1K OHM +-5% 1/16W
R208	700033	CF 270 OHM +-5% 1/16W
R209	700051	CF 5.6K OHM +-5% 1/16W
R20A	100121	CF 220K OHM +-5% 1/8W
R20C	100127	CF 390K OHM +-5% 1/8W
R20E	700041	CF 1K OHM +-5% 1/16W
R20H	100117	CF 150K OHM +-5% 1/8W
R20K	700041	CF 1K OHM +-5% 1/16W
R210	700036	CF 470 OHM +-5% 1/16W
R211	100057	CF 470 OHM +-5% 1/8W
R212	700027	CF 100 OHM +-5% 1/16W
R213	700041	CF 1K OHM +-5% 1/16W
R214	700036	CF 470 OHM +-5% 1/16W
R215	700037	CF 560 OHM +-5% 1/16W
R216	700027	CF 100 OHM +-5% 1/16W
R217	700027	CF 100 OHM +-5% 1/16W
R218	700036	CF 470 OHM +-5% 1/16W
R302	100127	CF 390K OHM +-5% 1/8W
R303	700056	CF 15K OHM +-5% 1/16W
R304	100127	CF 390K OHM +-5% 1/8W (31V/27V)
R305	700036	CF 470 OHM +-5% 1/16W
R306	700033	CF 270 OHM +-5% 1/16W
R307	700035	CF 390 OHM +-5% 1/16W
R308	700038	CF 680 OHM +-5% 1/16W
R309	700037	CF 560 OHM +-5% 1/16W
R30E	700054	CF 10K OHM +-5% 1/16W
R30H	700038	CF 680 OHM +-5% 1/16W
R30K	700063	CF 47K OHM +-5% 1/16W
R310	700054	CF 10K OHM +-5% 1/16W
R311	700025	CF 68 OHM +-5% 1/16W (31V/27V)
R312	100033	CF 47 OHM +-5% 1/8W
R313	700055	CF 12K OHM +-5% 1/16W (31V/27V)
R316	700037	CF 560 OHM +-5% 1/16W

SYMBOL NO.	PART NO.	PART DESCRIPTION
R317	700029	CF 150 OHM +-5% 1/16W
R318	187060	CF 620 OHM +-5% 1/16W
R31C	700041	CF 1K OHM +-5% 1/16W
R31E	700063	CF 47K OHM +-5% 1/16W
R31H	700041	CF 1K OHM +-5% 1/16W
R31K	700041	CF 1K OHM +-5% 1/16W
R320	700063	CF 47K OHM +-5% 1/16W
R321	700037	CF 560 OHM +-5% 1/16W
R322	700041	CF 1K OHM +-5% 1/16W
R323	150282	VR 500 OHM(B)
R324	700038	CF 680 OHM +-5% 1/16W
R325	700045	CF 2.2K OHM +-5% 1/16W
R326	700032	CF 220 OHM +-5% 1/16W
R327	700033	CF 270 OHM +-5% 1/16W
R328	700033	CF 270 OHM +-5% 1/16W
R329	700039	CF 820 OHM +-5% 1/16W
R32C	700037	CF 560 OHM +-5% 1/16W
R32E	150283	VR 1K OHM-B
R32H	700039	CF 820 OHM +-5% 1/16W
R32K	700037	CF 560 OHM +-5% 1/16W
R330	700041	CF 1K OHM +-5% 1/16W
R331	700027	CF 100 OHM +-5% 1/16W
R332	700038	CF 680 OHM +-5% 1/16W
R333	150282	VR 500 OHM (B)
R334	100059	CF 560 OHM +-5% 1/8W
R335	700032	CF 220 OHM +-5% 1/16W
R336	700054	CF 10K OHM +-5% 1/16W
R337	700058	CF 22K OHM +-5% 1/16W
R338	187056	CF 430 OHM +-5% 1/16W
R339	700037	CF 560 OHM +-5% 1/16W
R33A	700034	CF 330 OHM +-5% 1/16W
R33C	700037	CF 560 OHM +-5% 1/16W
R33E	700057	CF 18K OHM +-5% 1/16W
R33H	700032	CF 220 OHM +-5% 1/16W
R340	150287	VR 10K OHM-B
R341	700052	CF 6.8K OHM +-5% 1/16W
R342	700049	CF 4.7K OHM +-5% 1/16W
R343	700049	CF 4.7K OHM +-5% 1/16W
R344	700051	CF 5.6K OHM +-5% 1/16W
R345	700031	CF 180 OHM +-5% 1/16W
R346	700061	CF 33K OHM +-5% 1/16W
R348	100041	CF 100 OHM +-5% 1/8W
R349	100041	CF 100 OHM +-5% 1/8W (EXCEPT 27CX3B)
R34A	100038	CF 75 OHM +-5% 1/8W
R34C	100041	CF 100 OHM +-5% 1/8W
R34H	100038	CF 75 OHM +-5% 1/8W
R34K	100038	CF 75 OHM +-5% 1/8W (EXCEPT 35V/27CX3B)
R350	100041	CF 100 OHM +-5% 1/8W
R351	100041	CF 100 OHM +-5% 1/8W
R352	700041	CF 1K OHM +-5% 1/16W
R354	700027	CF 100 OHM +-5% 1/16W
R355	700049	CF 4.7K OHM +-5% 1/16W
R356	700054	CF 10K OHM +-5% 1/16W
R358	700056	CF 15K OHM +-5% 1/16W
R359	700054	CF 10K OHM +-5% 1/16W
R35A	700057	CF 18K OHM +-5% 1/16W
R35E	700041	CF 1K OHM +-5% 1/16W
R360	700041	CF 1K OHM +-5% 1/16W
R361	100038	CF 75 OHM +-5% 1/8W
R362	100038	CF 75 OHM +-5% 1/8W
R364	700054	CF 10K OHM +-5% 1/16W
R365	700034	CF 330 OHM +-5% 1/16W
R366	700054	CF 10K OHM +-5% 1/16W
R367	700054	CF 10K OHM +-5% 1/16W
R368	100041	CF 100 OHM +-5% 1/8W (31V/27V)
R3801	187038	CF 75 OHM +-5% 1/16W (35V)
R3802	100041	CF 100 OHM +-5% 1/8W (35V)
R3803	700041	CF 1K OHM +-5% 1/16W (35V)
R3804	700041	CF 1K OHM +-5% 1/16W (35V)
R3805	100123	CF 270K OHM +-5% 1/8W (35V)
R3806	700064	CF 56K OHM +-5% 1/16W (35V)
R3807	700047	CF 3.3K OHM +-5% 1/16W (35V)
R3808	700045	CF 2.2K OHM +-5% 1/16W (35V)

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SYMBOL NO.	PART NO.	PART DESCRIPTION
R3809	700064	CF 56K OHM +-5% 1/16W (35V)
R3810	100123	CF 270K OHM +-5% 1/8W (35V)
R3811	700041	CF 1K OHM +-5% 1/16W (35V)
R3812	700041	CF 1K OHM +-5% 1/16W (35V)
R3813	100041	CF 100 OHM +-5% 1/8W (35V)
R390	700035	CF 390 OHM +-5% 1/16W
R391	100133	CF 680K OHM +-5% 1/8W (31V/27V)
R392	700032	CF 220 OHM +-5% 1/16W
R393	100049	CF 220 OHM +-5% 1/8W
R394	700056	CF 15K OHM +-5% 1/16W (31V/27V)
R395	700027	CF 100 OHM +-5% 1/16W
R396	700042	CF 1.2K OHM +-5% 1/16W
R397	700051	CF 5.6K OHM +-5% 1/16W
R398	700057	CF 18K OHM +-5% 1/16W (31V/27V)
R39A	700054	CF 10K OHM +-5% 1/16W (35V)
R401	700041	CF 1K OHM +-5% 1/16W
R402	700034	CF 330 OHM +-5% 1/16W
R403	700041	CF 1K OHM +-5% 1/16W
R404	700062	CF 39K OHM +-5% 1/16W
R405	700041	CF 1K OHM +-5% 1/16W
R406	700054	CF 10K OHM +-5% 1/16W
R407	700041	CF 1K OHM +-5% 1/16W
R408	700041	CF 1K OHM +-5% 1/16W
R409	700034	CF 330 OHM +-5% 1/16W
R40A	700041	CF 1K OHM +-5% 1/16W
R40C	700054	CF 10K OHM +-5% 1/16W
R40E	700063	CF 47K OHM +-5% 1/16W
R40H	700062	CF 39K OHM +-5% 1/16W
R40K	700063	CF 47K OHM +-5% 1/16W
R410	700063	CF 47K OHM +-5% 1/16W
R411	700063	CF 47K OHM +-5% 1/16W
R412	700063	CF 47K OHM +-5% 1/16W
R413	700063	CF 47K OHM +-5% 1/16W
R415	187082	CF 5.1K OHM +-5% 1/16W
R416	100116	CF 130K OHM +-5% 1/8W
R417	100117	CF 150K OHM +-5% 1/8W
R418	150160	VR 10K OHM-B +-30%
R419	700036	CF 470 OHM +-5% 1/16W
R41A	700036	CF 470 OHM +-5% 1/16W
R41C	700041	CF 1K OHM +-5% 1/16W
R41E	700046	CF 2.7K OHM +-5% 1/16W
R41K	150287	VR 10K OHM-B
R420	100125	CF 330K OHM +-5% 1/8W
R421	700054	CF 10K OHM +-5% 1/16W
R422	700045	CF 2.2K OHM +-5% 1/16W
R423	150157	VR 200K OHM-B RV-6
R424	700061	CF 33K OHM +-5% 1/16W
R425	100133	CF 680K OHM +-5% 1/8W
R427	700067	CF 100K OHM +-5% 1/16W
R428	100116	CF 130K OHM +-5% 1/8W
R429	150290	VR 50K OHM (B)
R42A	150290	VR 50K OHM (B)
R42E	700047	CF 3.3K OHM +-5% 1/16W
R42F	700036	CF 470 OHM +-5% 1/16W
R42G	100131	CF 560K OHM +-5% 1/8W
R42K	100123	CF 270K OHM +-5% 1/8W
R430	700041	CF 1K OHM +-5% 1/16W
R431	700041	CF 1K OHM +-5% 1/16W
R432	700046	CF 2.7K OHM +-5% 1/16W
R433	700041	CF 1K OHM +-5% 1/16W
R434	700041	CF 1K OHM +-5% 1/16W
R435	700037	CF 560 OHM +-5% 1/16W
R436	700037	CF 560 OHM +-5% 1/16W
R437	700037	CF 560 OHM +-5% 1/16W
R438	700037	CF 560 OHM +-5% 1/16W
R439	700041	CF 1K OHM +-5% 1/16W
R43A	700041	CF 1K OHM +-5% 1/16W
R43C	700041	CF 1K OHM +-5% 1/16W
R43E	700054	CF 10K OHM +-5% 1/16W
R43H	700041	CF 1K OHM +-5% 1/16W
R43K	700054	CF 10K OHM +-5% 1/16W
R440	700045	CF 2.2K OHM +-5% 1/16W
R441	700045	CF 2.2K OHM +-5% 1/16W

SYMBOL NO.	PART NO.	PART DESCRIPTION
R442	700041	CF 1K OHM +-5% 1/16W
R443	700041	CF 1K OHM +-5% 1/16W
R444	700048	CF 3.9K OHM +-5% 1/16W
R445	700048	CF 3.9K OHM +-5% 1/16W
R446	700034	CF 330 OHM +-5% 1/16W
R447	100113	CF 100K OHM +-5% 1/8W
R448	700034	CF 330 OHM +-5% 1/16W
⚠ R449	1195051	FR 2.2 OHM +-5% 1/4W
R44A	700063	CF 47K OHM +-5% 1/16W
R44C	700063	CF 47K OHM +-5% 1/16W
R44E	100077	CF 3.3K OHM +-5% 1/8W
⚠ R44H	1195051	FR 2.2 OHM +-5% 1/4W
⚠ R44K	119687	FR 4.7 OHM +-5% 1/4W
R450	100077	CF 3.3K OHM +-5% 1/8W
R451	100133	CF 680K OHM +-5% 1/8W (35V)
R452	700063	CF 47K OHM +-5% 1/16W
R453	700045	CF 2.2K OHM +-5% 1/16W
R454	700063	CF 47K OHM +-5% 1/16W
R458	700063	CF 47K OHM +-5% 1/16W
R45A	700049	CF 4.7K OHM +-5% 1/16W
R45H	700049	CF 4.7K OHM +-5% 1/16W
R470	100065	CF 1K OHM +-5% 1/8W
R471	100113	CF 100K OHM +-5% 1/8W
R472	700063	CF 47K OHM +-5% 1/16W
R473	100113	CF 100K OHM +-5% 1/8W
R474	100065	CF 1K OHM +-5% 1/8W
R475	700063	CF 47K OHM +-5% 1/16W
R476	100113	CF 100K OHM +-5% 1/8W
R477	100065	CF 1K OHM +-5% 1/8W
R478	700063	CF 47K OHM +-5% 1/16W
R479	100113	CF 100K OHM +-5% 1/8W
R47A	100065	CF 1K OHM +-5% 1/8W
R47C	100065	CF 1K OHM +-5% 1/8W
R47E	100113	CF 100K OHM +-5% 1/8W
R47F	100065	CF 1K OHM +-5% 1/8W
R47H	700063	CF 47K OHM +-5% 1/16W
R47K	100113	CF 100K OHM +-5% 1/8W
R480	100065	CF 1K OHM +-5% 1/8W (EXCEPT 27CX3B)
R481	100113	CF 100K OHM +-5% 1/8W (EXCEPT 35V/27CX3B)
R482	700063	CF 47K OHM +-5% 1/16W (EXCEPT 27CX3B)
R483	100065	CF 1K OHM +-5% 1/8W (EXCEPT 27CX3B)
R484	100113	CF 100K OHM +-5% 1/8W (EXCEPT 35V/27CX3B)
R485	700063	CF 47K OHM +-5% 1/16W (EXCEPT 27CX3B)
⚠ R490	119514	FR 10 OHM +-5% 1/4W
R501	700057	CF 18K OHM +-5% 1/16W
R502	700058	CF 22K OHM +-5% 1/16W
R519	700054	CF 10K OHM +-5% 1/16W
R51A	700041	CF 1K OHM +-5% 1/16W
R51C	700054	CF 10K OHM +-5% 1/16W
R51E	100049	CF 220 OHM +-5% 1/8W
R51H	700054	CF 10K OHM +-5% 1/16W
R51K	100049	CF 220 OHM +-5% 1/8W
R520	100049	CF 220 OHM +-5% 1/8W
R521	700061	CF 33K OHM +-5% 1/16W
R522	700031	CF 180 OHM +-5% 1/16W
R601	700058	CF 22K OHM +-5% 1/16W
R602	700027	CF 100 OHM +-5% 1/16W
R603	700059	CF 27K OHM +-5% 1/16W
R604	700054	CF 10K OHM +-5% 1/16W
R607	100119	CF 180K OHM +-5% 1/8W
R608	700038	CF 680 OHM +-5% 1/16W
R609	700042	CF 1.2K OHM +-5% 1/16W
R60A	700041	CF 1K OHM +-5% 1/16W
R60C	100055	CF 390 OHM +-5% 1/8W
R60E	700041	CF 1K OHM +-5% 1/16W
R60H	700032	CF 220 OHM +-5% 1/16W
R610	700048	CF 3.9K OHM +-5% 1/16W
R613	700055	CF 12K OHM +-5% 1/16W
R614	700048	CF 3.9K OHM +-5% 1/16W
R621	700035	CF 390 OHM +-5% 1/16W
R622	700065	CF 68K OHM +-5% 1/16W
R623	700058	CF 22K OHM +-5% 1/16W
R624	100131	CF 560K OHM +-5% 1/8W

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SYMBOL NO.	PART NO.	PART DESCRIPTION
R625	114135	CF 150 OHM +-5% 1/4W
R626	700059	CF 27K OHM +-5% 1/16W
R627	100129	CF 470K OHM +-5% 1/8W
R628	187106	CF 51K OHM +-5% 1/16W
R629	700064	CF 56K OHM +-5% 1/16W
R62A	150160	VR 10K OHM-B +-30%
R62C	119841	MF 0.82 OHM +-5% 1W
R62H	700044	CF 1.8K OHM +-5% 1/16W
R62K	700037	CF 560 OHM +-5% 1/16W
R630	700032	CF 220 OHM +-5% 1/16W
R631	700065	CF 68K OHM +-5% 1/16W
R632	114163	CF 1.2K OHM +-5% 1/4W(31V)
R632	114161	CF 1K OHM +-5% 1/4W (35V)
R634	114161	CF 1K OHM +-5% 1/4W (35V)
R636	113742	CF 470 OHM +-5% 1/2W
R637	110115	MF 56 OHM +-5% 1W
R647	700044	CF 1.8K OHM +-5% 1/16W
R648	114143	CF 330 OHM +-5% 1/4W
R649	100056	CF 430 OHM +-5% 1/8W
R64C	700049	CF 4.7K OHM +-5% 1/16W
R650	700067	CF 100K OHM +-5% 1/16W
R651	100125	CF 330K OHM +-5% 1/8W
R651	700066	CF 82K OHM +-5% 1/16W
R652	700057	CF 18K OHM +-5% 1/16W
R652	700066	CF 82K OHM +-5% 1/16W
R653	700064	CF 56K OHM +-5% 1/16W
R654	700057	CF 18K OHM +-5% 1/16W
R655	700063	CF 47K OHM +-5% 1/16W(31V/27V)
R655	700059	CF 27K OHM +-5% 1/16W (35V)
R656	700049	CF 4.7K OHM +-5% 1/16W
R657	100119	CF 180K OHM +-5% 1/8W(31V/27V)
R657	100117	CF 150K OHM +-5% 1/8W (35V)
R658	700058	CF 22K OHM +-5% 1/16W (31V)
R658	700038	CF 680 OHM +-5% 1/16W (27UX5B)
R658	700055	CF 12K OHM +-5% 1/16W (35V/27CX4B/27CX3B)
R659	100117	CF 150K OHM +-5% 1/8W
R663	700059	CF 27K OHM +-5% 1/16W
R664	700063	CF 47K OHM +-5% 1/16W(31V/27V)
R664	700066	CF 82K OHM +-5% 1/16W (35V)
R665	700064	CF 56K OHM +-5% 1/16W
R666	700061	CF 33K OHM +-5% 1/16W
R667	100133	CF 680K OHM +-5% 1/8W
R668	2340371	TH 112301-9
R669	700067	CF 100K OHM +-5% 1/16W
R670	700045	CF 2.2K OHM +-5% 1/16W
R671	700065	CF 68K OHM +-5% 1/16W
R701	700036	CF 470 OHM +-5% 1/16W
R702	700045	CF 2.2K OHM +-5% 1/16W
R703	700041	CF 1K OHM +-5% 1/16W
R704	150287	VR 10K OHM-B
⚠ R705	700054	CF 10K OHM +-5% 1/16W
R706	700045	CF 2.2K OHM +-5% 1/16W
R707	100045	CF 150 OHM +-5% 1/8W
R708	100125	CF 330K OHM +-5% 1/8W
R709	114141	CF 270 OHM +-5% 1/4W
R70A	114137	CF 180 OHM +-5% 1/4W
R710	700033	CF 270 OHM +-5% 1/16W
R712	114049	CF 22 OHM +-5% 1/4W (31V/27V)
R716	113729	CF 150 OHM +-5% 1/2W
R717	700067	CF 100K OHM +-5% 1/16W
⚠ R718	100037	CF 68 OHM +-5% 1/8W
R720	114143	CF 330 OHM +-5% 1/4W
⚠ R721	119838	FR 0.5 OHM +-5% 1/4W
⚠ R725	1195051	FR 2.2 OHM +-5% 1/4W
⚠ R726	1195051	FR 2.2 OHM +-5% 1/4W
R727	119688	MF 0.22 OHM +-5% 1W
R728	700044	CF 1.8K OHM +-5% 1/16W
⚠ R729	700048	CF 3.9K OHM +-5% 1/16W
R732	100077	CF 3.3K OHM +-5% 1/8W
R733	700051	CF 5.6K OHM +-5% 1/16W
R734	113748	CF 820 OHM +-5% 1/2W
R735	113754	CF 1.5K OHM +-5% 1/2W
⚠ R736	700032	CF 220 OHM +-5% 1/16W

SYMBOL NO.	PART NO.	PART DESCRIPTION
⚠ R738	700045	CF 2.2K OHM +-5% 1/16W
R739	700041	CF 1K OHM +-5% 1/16W
R73A	114049	CF 22 OHM +-5% 1/4W
R73C	700018	CF 22 OHM +-5% 1/16W
⚠ R73E	119838	FR 0.5 OHM +-5% 1/4W
R73H	114161	CF 1K OHM +-5% 1/4W
R73K	700036	CF 470 OHM +-5% 1/16W
R740	110125	MF 150 OHM +-5% 1W (31V/27V)
⚠ R745	700054	CF 10K OHM +-5% 1/16W
⚠ R746	700053	CF 8.2K OHM +-5% 1/16W
R74A	100061	CF 680 OHM +-5% 1/8W
R74C	100107	CF 56K OHM +-5% 1/8W
R74H	100105	CF 47K OHM +-5% 1/8W
R750	100073	CF 2.2K OHM +-5% 1/8W
R751	700065	CF 68K OHM +-5% 1/16W
R752	150309	VR 100K OHM-B
R753	700056	CF 15K OHM +-5% 1/16W
R754	700038	CF 680 OHM +-5% 1/16W
R755	150306	VR 20K OHM-B
R756	700057	CF 18K OHM +-5% 1/16W
R757	700064	CF 56K OHM +-5% 1/16W
R758	700051	CF 5.6K OHM +-5% 1/16W
R759	700064	CF 56K OHM +-5% 1/16W
R760	700066	CF 82K OHM +-5% 1/16W
R762	700058	CF 22K OHM +-5% 1/16W
R763	110259	MF 3.9K OHM +-5% 2W
R764	100075	CF 2.7K OHM +-5% 1/8W
R765	100071	CF 1.8K OHM +-5% 1/8W
R766	700027	CF 100 OHM +-5% 1/16W
R767	700044	CF 1.8K OHM +-5% 1/16W
R768	700056	CF 15K OHM +-5% 1/16W
R769	700054	CF 10K OHM +-5% 1/16W
R770	100115	CF 120K OHM +-5% 1/8W
R771	700055	CF 12K OHM +-5% 1/16W
R772	700046	CF 2.7K OHM +-5% 1/16W
R773	700049	CF 4.7K OHM +-5% 1/16W
R774	700055	CF 12K OHM +-5% 1/16W
R775	150305	VR 10K OHM B
R776	700051	CF 5.6K OHM +-5% 1/16W
⚠ R781	100073	CF 2.2K OHM +-5% 1/8W
R782	700054	CF 10K OHM +-5% 1/16W
R783	700046	CF 2.7K OHM +-5% 1/16W
R785	700054	CF 10K OHM +-5% 1/16W
R786	110241	MF 680 OHM +-5% 2W
R787	110215	MF 56 OHM +-5% 2W (31V/27V)
R787	110219	MF 82 OHM +-5% 2W (35V)
R788	700063	CF 47K OHM +-5% 1/16W
R789	700061	CF 33K OHM +-5% 1/16W
R790	700046	CF 2.7K OHM +-5% 1/16W
R791	700049	CF 4.7K OHM +-5% 1/16W
R792	114203	CF 12K OHM +-5% 1/4W (31UX5B/27UX5B)
R793	110177	MF 22K OHM +-5% 1W
R794	110257	MF 3.3K OHM +-5% 2W
R798	113760	CF 2.7K OHM +-5% 1/2W
R801	700043	CF 1.5K OHM +-5% 1/16W
R802	700054	CF 10K OHM +-5% 1/16W
R805	700026	CF 82 OHM +-5% 1/16W (31V/27V)
R805	700023	CF 47 OHM +-5% 1/16W (35V)
R806	150109	VR 200 OHM-B RS-6
R807	150302	VR 2K OHM B
R808	700038	CF 680 OHM +-5% 1/16W
R809	700038	CF 680 OHM +-5% 1/16W
R811	700024	CF 56 OHM +-5% 1/16W (31V/27V)
R811	700026	CF 82 OHM +-5% 1/16W (35V)
R813	700038	CF 680 OHM +-5% 1/16W
R814	150302	VR 2K OHM B
R815	700027	CF 100 OHM +-5% 1/16W
R816	150109	VR 200 OHM-B RS-6
R817	700038	CF 680 OHM +-5% 1/16W
R818	150302	VR 2K OHM B
R819	700064	CF 56K OHM +-5% 1/16W
R820	100049	CF 220 OHM +-5% 1/8W
R821	100049	CF 220 OHM +-5% 1/8W

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SYMBOL NO.	PART NO.	PART DESCRIPTION
R822	100049	CF 220 OHM +-5% 1/8W
R824	100063	CF 820 OHM +-5% 1/8W
R825	100063	CF 820 OHM +-5% 1/8W
R826	100057	CF 470 OHM +-5% 1/8W
R827	100057	CF 470 OHM +-5% 1/8W
R828	100057	CF 470 OHM +-5% 1/8W
R829	700043	CF 1.5K OHM +-5% 1/16W
R830	700043	CF 1.5K OHM +-5% 1/16W
R831	700043	CF 1.5K OHM +-5% 1/16W
R832	700032	CF 220 OHM +-5% 1/16W
R833	700032	CF 220 OHM +-5% 1/16W
R834	700032	CF 220 OHM +-5% 1/16W
R835	187074	CF 2.4K OHM +-5% 1/16W
R836	700044	CF 1.8K OHM +-5% 1/16W
R837	700038	CF 680 OHM +-5% 1/16W (EXCEPT 27UX5B)
R837	700036	CF 470 OHM +-5% 1/16W (27UX5B)
R838	700035	CF 390 OHM +-5% 1/16W
R839	700041	CF 1K OHM +-5% 1/16W
R840	700046	CF 2.7K OHM +-5% 1/16W
R841	700041	CF 1K OHM +-5% 1/16W
R842	700051	CF 5.6K OHM +-5% 1/16W
R843	700043	CF 1.5K OHM +-5% 1/16W
R844	700052	CF 6.8K OHM +-5% 1/16W
R845	700035	CF 390 OHM +-5% 1/16W
R846	700041	CF 1K OHM +-5% 1/16W
R847	700041	CF 1K OHM +-5% 1/16W
R848	700051	CF 5.6K OHM +-5% 1/16W
R849	700055	CF 12K OHM +-5% 1/16W
R850	100041	CF 100 OHM +-5% 1/8W
⚠ R851	110271	MF 12K OHM +-5% 2W (31V/27V)
⚠ R851	110367	MF 8.2K OHM +-5% 3W (35V)
⚠ R852	110271	MF 12K OHM +-5% 2W (31V/27V)
⚠ R852	110367	MF 8.2K OHM +-5% 3W (35V)
⚠ R853	110271	MF 12K OHM +-5% 2W (31V/27V)
⚠ R853	110367	MF 8.2K OHM +-5% 3W (35V)
R861	100063	CF 820 OHM +-5% 1/8W
R862	100063	CF 820 OHM +-5% 1/8W
R863	100049	CF 220 OHM +-5% 1/8W
R864	700054	CF 10K OHM +-5% 1/16W
R865	700048	CF 3.9K OHM +-5% 1/16W
R875	113750	CF 1K OHM +-5% 1/2W
R876	113750	CF 1K OHM +-5% 1/2W
R877	113750	CF 1K OHM +-5% 1/2W
R878	100049	CF 220 OHM +-5% 1/8W
R879	100049	CF 220 OHM +-5% 1/8W
R880	100049	CF 220 OHM +-5% 1/8W
R881	114131	CF 100 OHM +-5% 1/4W
R882	114131	CF 100 OHM +-5% 1/4W
R883	114131	CF 100 OHM +-5% 1/4W
R884	100037	CF 68 OHM +-5% 1/8W (35V/31UX5B)
R884	100039	CF 82 OHM +-5% 1/8W (31CX4B)
R884	0100040M	CF 91 OHM +-5% 1/8W (27V)
R885	100037	CF 68 OHM +-5% 1/8W (35V/31UX5B)
R885	100039	CF 82 OHM +-5% 1/8W (31CX4B)
R885	0100040M	CF 91 OHM +-5% 1/8W (27V)
R886	100037	CF 68 OHM +-5% 1/8W (35V/31UX5B)
R886	100039	CF 82 OHM +-5% 1/8W (31CX4B)
R886	0100040M	CF 91 OHM +-5% 1/8W (27V)
R898	700027	CF 100 OHM +-5% 1/16W (31V/27V)
R888	700023	CF 47 OHM +-5% 1/16W (35V)
⚠ R901	2341281	TH PTH451C460BG3R0Q (35V/31V)
⚠ R901	2341261	TH PTH451C260BG5R0M (27V)
⚠ R902	147811	WW 1.5 OHM +-10% 16W
⚠ R903	141161	WW 220 OHM +-5% 15W
R904	110221	MF 100 OHM +-5% 2W
R905	110197	MF 10 OHM +-5% 2W
R906	110197	MF 10 OHM +-5% 2W
R907	110173	MF 15K OHM +-5% 1W
R908	100113	CF 100K OHM +-5% 1/8W
R909	100129	CF 470K OHM +-5% 1/8W
R90A	119722	MF 1 OHM +-5% 1W
R90C	700053	CF 8.2K OHM +-5% 1/16W
R90F	110125	MF 150 OHM +-5% 1W
R90H	114059	CF 56 OHM +-5% 1/4W
R90K	110125	MF 150 OHM +-5% 1W
R910	100133	CF 680K OHM +-5% 1/8W
R912	141159	WW 180 OHM +-5% 15W
R914	110155	MF 2.7K OHM +-5% 1W
R915	110261	MF 4.7K OHM +-5% 2W
R916	114221	CF 68K OHM +-5% 1/4W
R917	114209	CF 22K OHM +-5% 1/4W
R918	0100010M	MF 5.1 OHM +-5% 1/8W
R919	700027	CF 100 OHM +-5% 1/16W
R91A	700032	CF 220 OHM +-5% 1/16W
R91C	100101	CF 33K OHM +-5% 1/8W
R91E	110129	MF 220 OHM +-5% 1W
R91F	114171	CF 2.7K OHM +-5% 1/4W
R91H	114053	CF 33 OHM +-5% 1/4W
R91K	110141	MF 680 OHM +-5% 1W
R920	700027	CF 100 OHM +-5% 1/16W
R921	700067	CF 100K OHM +-5% 1/16W
R922	114179	CF 5.6K OHM +-5% 1/4W
R923	114149	CF 560 OHM +-5% 1/4W
R924	147620	WW 2.7OHM +-10% 7W
R925	100073	CF 2.2K OHM +-5% 1/8W
R926	700049	CF 4.7K OHM +-5% 1/16W
R927	700064	CF 56K OHM +-5% 1/16W
R928	700051	CF 5.6K OHM +-5% 1/16W
R929	700061	CF 33K OHM +-5% 1/16W
R92A	113750	CF 1K OHM +-5% 1/2W
R92C	700046	CF 2.7K OHM +-5% 1/16W
R92E	113725	CF 100 OHM +-5% 1/2W
R92F	113746	CF 680 OHM +-5% 1/2W
R92H	700032	CF 220 OHM +-5% 1/16W
R92K	700064	CF 56K OHM +-5% 1/16W
R930	700051	CF 5.6K OHM +-5% 1/16W
R931	700051	CF 5.6K OHM +-5% 1/16W
R932	700051	CF 5.6K OHM +-5% 1/16W
⚠ R933	119508	FR 56 OHM +-5% 1/4W
R934	100029	CF 33 OHM +-5% 1/8W
R935	700051	CF 5.6K OHM +-5% 1/16W
R936	110197	MF 10 OHM +-5% 2W
R937	700051	CF 5.6K OHM +-5% 1/16W
R938	110281	MF 33K OHM +-5% 2W
⚠ R939	1195051	FR 2.2 OHM +-5% 1/4W
R93A	100111	CF 82K OHM +-5% 1/8W
R93H	113746	CF 680 OHM +-5% 1/2W
R941	100103	CF 39K OHM +-5% 1/8W
R942	110217	MF 68 OHM +-5% 2W
R944	110223	MF 120 OHM +-5% 2W
R969	147060	WW 33 OHM +-5% 2W
R970	141195	WW 330 OHM +-5% 10W
RA01	100066	CF 1.1K OHM +-5% 1/8W (35V)
RA02	100065	CF 1K OHM +-5% 1/8W (35V)
RA03	100065	CF 1K OHM +-5% 1/8W (35V)
RA04	100065	CF 1K OHM +-5% 1/8W (35V)
RMF1	700051	CF 5.6K OHM +-5% 1/16W (35V)
RMF2	100053	CF 330 OHM +-5% 1/8W (35V)
RMF3	100056	CF 430 OHM +-5% 1/8W (35V)
RTP15	110125	MF 150 OHM +-5% 1W
RW01	700067	CF 100K OHM +-5% 1/16W (31UX5B/27UX5B)
RW02	700059	CF 27K OHM +-5% 1/16W (31UX5B/27UX5B)
RW06	700034	CF 330 OHM +-5% 1/16W (31UX5B/27UX5B)
RW07	700057	CF 18K OHM +-5% 1/16W (31UX5B/27UX5B)
RW08	700067	CF 100K OHM +-5% 1/16W (31UX5B/27UX5B)
RW09	700033	CF 270 OHM +-5% 1/16W (31UX5B/27UX5B)
RW10	700033	CF 270 OHM +-5% 1/16W (31UX5B/27UX5B)
RW11	700042	CF 1.2K OHM +-5% 1/16W (31UX5B/27UX5B)
RW12	700045	CF 2.2K OHM +-5% 1/16W (31UX5B/27UX5B)
RW13	700058	CF 22K OHM +-5% 1/16W (31UX5B/27UX5B)
RW16	113742	CF 470 OHM +-5% 1/2W (31UX5B/27UX5B)
RW17	700046	CF 2.7K OHM +-5% 1/16W (31UX5B/27UX5B)
RW19	700043	CF 1.5K OHM +-5% 1/16W (31UX5B/27UX5B)
RW21	113701	CF 10 OHM +-5% 1/2W (31UX5B/27UX5B)
RW22	100039	CF 82 OHM +-5% 1/8W (31UX5B/27UX5B)
RW23	100039	CF 82 OHM +-5% 1/8W (31UX5B/27UX5B)

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SYMBOL NO.	PART NO.	PART DESCRIPTION
RW24	114165	CF 1.5K OHM +-5% 1/4W(31UX5B/27UX5B)
RW25	100069	CF 1.5K OHM +-5% 1/8W (31UX5B/27UX5B)
RW26	114143	CF 330 OHM +-5% 1/4W (31UX5B/27UX5B)
RW27	114221	CF 68K OHM +-5% 1/4W (31UX5B/27UX5B)
RW28	114221	CF 68K OHM +-5% 1/4W (31UX5B/27UX5B)
RW29	100053	CF 330 OHM +-5% 1/8W (31UX5B/27UX5B)
RW30	113776	CF 12K OHM +-5% 1/2W (31UX5B/27UX5B)
RW31	113716	CF 43 OHM +-5% 1/2W (31UX5B/27UX5B)
RW32	113716	CF 43 OHM +-5% 1/2W (31UX5B/27UX5B)
RW33	113686	CF 2.7 OHM +-5% 1/2W (31UX5B/27UX5B)
RW34	113686	CF 2.7 OHM +-5% 1/2W (31UX5B/27UX5B)
RW35	110229	MF 220 OHM +-5% 2W (31UX5B/27UX5B)
RW36	110139	MF 560 OHM +-5% 1W (31UX5B/27UX5B)
⚠ RW37	119508	FR 56 OHM +-5% 1/4W (31UX5B/27UX5B)
RW38	700049	CF 4.7K OHM +-5% 1/16W (31UX5B/27UX5B)
RW39	700051	CF 5.6K OHM +-5% 1/16W (31UX5B/27UX5B)
RW40	700061	CF 33K OHM +-5% 1/16W (31UX5B/27UX5B)
RW41	700036	CF 470 OHM +-5% 1/16W (31UX5B/27UX5B)
RW42	700067	CF 100K OHM +-5% 1/16W (31UX5B/27UX5B)
RW43	700056	CF 15K OHM +-5% 1/16W (31UX5B/27UX5B)
RW44	700043	CF 1.5K OHM +-5% 1/16W (31UX5B/27UX5B)
RW45	700067	CF 100K OHM +-5% 1/16W (31UX5B/27UX5B)
RW47	700041	CF 1K OHM +-5% 1/16W (31UX5B/27UX5B)
RW48	700041	CF 1K OHM +-5% 1/16W (31UX5B/27UX5B)
RW49	700046	CF 2.7K OHM +-5% 1/16W (31UX5B/27UX5B)
RW51	700033	CF 270 OHM +-5% 1/16W (31UX5B/27UX5B)
RW52	700035	CF 390 OHM +-5% 1/16W (31UX5B/27UX5B)
RW53	700035	CF 390 OHM +-5% 1/16W (31UX5B/27UX5B)
RW54	700041	CF 1K OHM +-5% 1/16W (31UX5B/27UX5B)
RW55	700028	CF 120 OHM +-5% 1/16W (31UX5B/27UX5B)
RW55A	700037	CF 560 OHM +-5% 1/16W (31UX5B/27UX5B)
RY01	700041	CF 1K OHM +-5% 1/16W (35V)
RY02	700041	CF 1K OHM +-5% 1/16W (35V)
RY03	100057	CF 470 OHM +-5% 1/8W (35V)
RY04	700036	CF 470 OHM +-5% 1/16W (35V)
RY05	700036	CF 470 OHM +-5% 1/16W 35V)
RY06	700027	CF 100 OHM +-5% 1/16W (35V)
RY07	100073	CF 2.2K OHM +-5% 1/8W (35V)
RY08	700047	CF 3.3K OHM +-5% 1/16W (35V)
RY09	700058	CF 22K OHM +-5% 1/16W (35V)
RY10	700057	CF 18K OHM +-5% 1/16W (35V)
RY11	700055	CF 12K OHM +-5% 1/16W (35V)
		SWITCHES/RELAYS
S001	2632851	TACTO SWITCH (31V/27V)
S002	2632901	KEY SWITCH (31V/27V)
S003	2632901	KEY SWITCH (31V/27V)
S0501	2633321	5 KEY TACT SWITCH (35V)
S0502	2632901	KEY SWITCH (35V)
⚠ S901	2641221	POWER RELAY
⚠ SMF1	2620971	SLIDE SWITCH (35V)
⚠ SMF2	2620801	SLIDE SWITCH (35V)
		SPEAKERS
⚠ SP451	2735333	SPEAKER BOX ASS'Y (31UX5B/27UX5B)
⚠ SP451	2735331	SPEAKER BOX ASS'Y (31CX4B/27CX4B)
⚠ SP451	GK00061	SPEAKER 5X9 (27CX3B)
⚠ SP451	2414607	SPEAKER 6X12(35V)
⚠ SP452	2735333	SPEAKER BOX ASS'Y (31UX5B/27UX5B)
⚠ SP452	2735331	SPEAKER BOX ASS'Y (31CX4B/27CX4B)
⚠ SP452	GK00061	SPEAKER 5X9 (27CX3B)
⚠ SP452	2414607	SPEAKER 6X12 (35V)
		TRANSFORMERS
⚠ T701	2274353	H DRIVE TRANSFORMER
⚠ T702	2437092	FLY BACK TRANSFORMER C87LUI
⚠ T901	2216002	SWITCHING TRANSFORMER
		COLOR PICTURE TUBE
⚠ V1	DE00161	C P T M78JUA165X (31UX5B)
⚠ V1	DE00061	C P T A78LCU30X(31V D.T-AK) (31CX4B)
⚠ V1	2471552	C P T M68JUA168X (27UX5B)
⚠ V1	2471561	C P T A68KSA30X (27CX4B)
⚠ V1	2471561	C P T A68KSA30X (27CX3B)
⚠ V1	2471593	C P T A89AEJ15X01 (35TX10B)
		DEFLECTION YOKE
⚠ E601	2444432	DEFLECTION YOKE (31UX5B)
⚠ E601	BY00131	DEFLECTION YOKE HED-US31V 31CX4B)
⚠ E601	2444251	DEFLECTION YOKE (27UX5B)
⚠ E601	2444253	DEFLECTION YOKE (27CX4B/27CX3B)
		CRYSTAL/FILTERS
H301	2151041	DELAY LINE AND B.P.F
⚠ H901	2793313	COMPOUND COMPONENT
X001	2168831	CRYSTAL
X103	2300477	SAW FILTER HW2267
X201	2167311	CERAMIC FILTER 4.5MHZ
X202	2167201	CERAMIC TRAP 4.5MHZ
X301	2793281	DELAY LINE
X302	2794401	DELAY LINE
X501	2791505	CRYSTAL
X701	2167241	CERAMIC OSC 0.5MHZ
XW01	2150361	LC FILTER SDL4620 (31UX5B/27UX5B)
		MISCELLANEOUS PARTS
#	PC00341	BUTTON (31UX5B/31CX4B))
#	PC00342	BUTTON (27UX5B/27CX4B)
#	PC00343	BUTTON (27CX3B)
#011	QG00091	CABINET ASS'Y (35V)
#050	QD00683	FRAME ASS'Y (31UX5B)
#060	QD00684	FRAME ASS'Y (31CX4B)
#100	4521713	HEXAGON HEAD TAPPING SCREW (35V)
#105	NT00121	TERMINAL BOARD
#105	4516581	SCREW 4X16 SPECIAL WASHER SWRM (35V)
#105	4516582	4X26 TAPPING SCREW WITH BOLT (35V)
#111	8781646	4X16 TAPPING SCREW (27V)
#112	8781646	4X16 TAPPING SCREW (27UX5B/27CX4B)
#112	8781642	4X12 TAPPING SCREW (35V)
#115	4159427	3X10 TAPPING SCREW WITH WASHER (27CX3B)
#115	4137976	4X20 TAPPING SCREW WITH WASHER (35V)
#152	4528351	SCREW 6X30 (27V)
#152	4517801	6 FLANGE NUT (35V)
#160	3739671	CORD HOLDER
#201	8781646	4X16 TAPPING SCREW (27V)
#202	4519503	3X12 TAPPING SCREW
#202	8781646	4X16 TAPPING SCREW (27V)
#203	4519503	3X12 TAPPING SCREW
#210	4159427	3X10 TAPPING SCREW WITH WASHER.
#210	QD00681	FRAME ASS'Y (27UX5B)
#210	QD00911	FRAME ASS'Y (27CX3B)
#211	QD00682	FRAME ASS'Y (27CX4B)
#220	4520771	4X18 TAPPING SCREW WITH WASHER (35V)
#221	4520771	4X18 TAPPING SCREW WITH WASHER (35V)
#225	3875771	LATCH (27V/31V)
#250	4520232	4X16 DT SCREW (27V/31V)
#250	3727972	HOLDER-AC LINE CORD (35V)
#250	4520232	4X16 DT SCREW (35V)
#253	8781642	4X12 TAPPING SCREW (27V)
#254	8781642	4X12 TAPPING SCREW (27V)
#289	8781642	4X12 TAPPING SCREW (35V)
#292	8815126	LOCKING WASHER 4 (35V)
#298	3875771	LATCH (35V)
#310	8781642	4X12 TAPPING SCREW (31V)
#415	8781642	4X12 TAPPING SCREW (31V)
#521	3164043	BACK COVER (31V)

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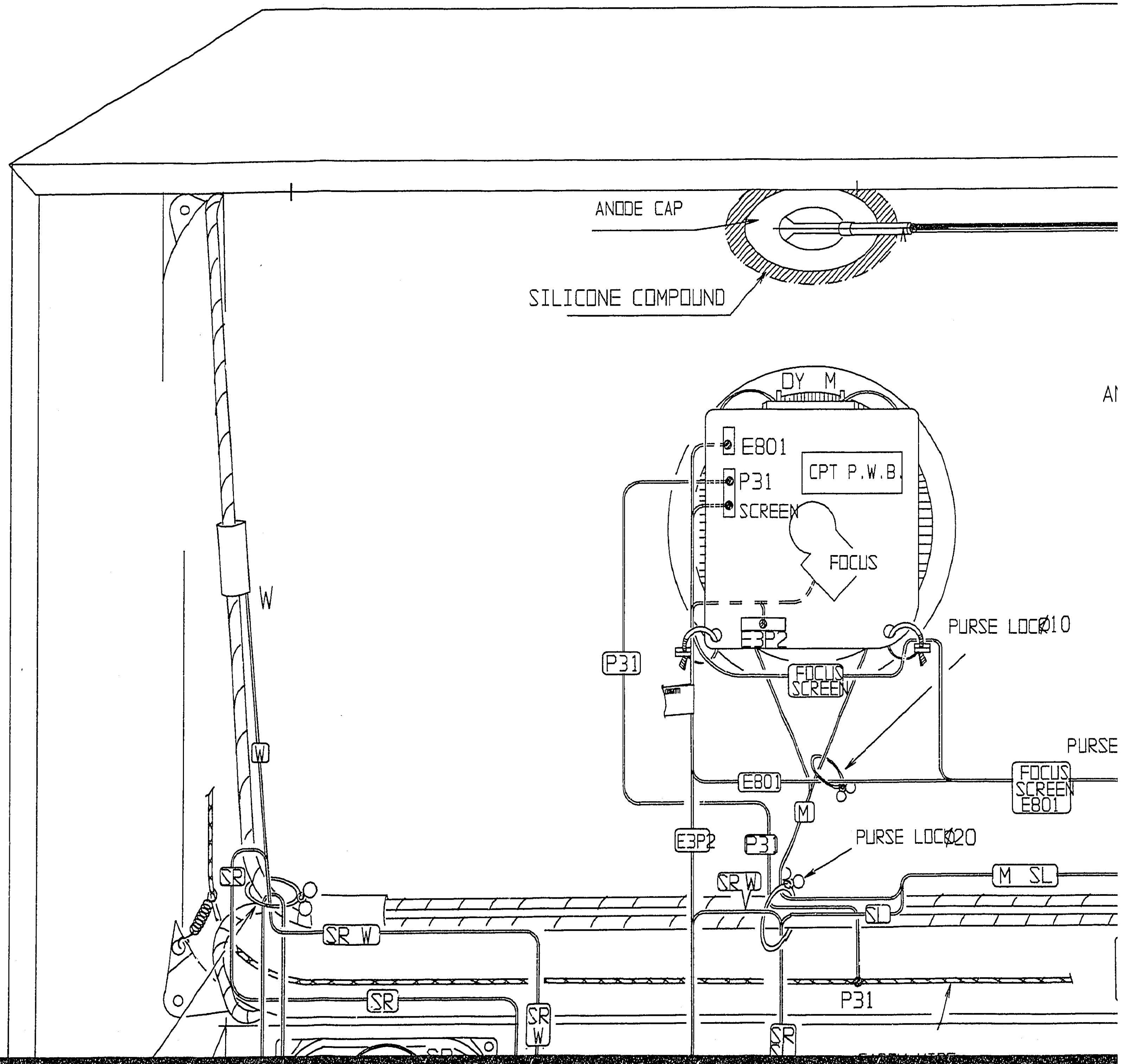
SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
#601	3727972	HOLDER-AC LINE CORD (27V/31V)			
#701	3163507	BACK COVER (27V)			
#860	4520771	4X18 TAPPING SCREW WITH WASHER (31V)			
#895	8781646	4X16 TAPPING SCREW (31V)			
#906	PH00971	TERMINAL LABEL (27V/31V)			
E0P	2954982	5P MICRO CONNECTOR (EXCEPT 27CX3B)			
E3P1	2976661	12P SUB MINI CONNECTOR (EXCEPT 27CX3B)			
E602	2994511	CPT EARTH READ (31V)			
E603	2771461	MAGNET PEACE			
E604	2773672	CF-MAGNET (31CX4B/27CX4B/27CX3B)			
E851	2953344	CPT SOCKET			
⚠ E901	2972521	POWER CORD			
EF901	2720221	FUSE HOLDER			
EF902	2720221	FUSE HOLDER			
G851	2340037	SPARK GAP			
G854	2340039	SPARK GAP (35V)			
G855	2340039	SPARK GAP (35V)			
G856	2340039	SPARK GAP (35V)			
⚠ G901	2340741	SPARK GAP			
⚠ J01	2983116	3P PIN JACK (35V)			
⚠ J301	2983095	8P PIN JACK WITH SW			
⚠ J30F	2673602	3P PIN JACK (31V/27V)			
⚠ JSIN	2983122	S-SOCKET			
N104	2788841	ANODE CLAMP (27V)			
N105	2788841	ANODE CLAMP (31V)			
N108	2788841	ANODE CLAMP (35V)			
N109	3700342	WIRE CLAMP (31V)			
N130	3700342	WIRE CLAMP (27V)			
N201	3763751	SK BINDER			
N403A	4520881	M3X8 SCREW WITH WASHER			
N403B	8821234	3 NUT			
N601	4615641	WEDGE (31CX4B/27CX4B/27CX3B)			
N606	3330941	EARTH SPRING			
N607	3763751	SK BINDER (35V)			
N607A	3763751	SK BINDER (31V)			
N607B	3763751	SK BINDER (27V)			
N608	3763752	SK BINDER (31V)			
N608	3763752	SK BINDER (35V)			
N610	2772981	FERRITE SHEET			
N611	2772211	MAGNET PIECE (31CX4B/27CX4B/27CX3B)			
N620A	4520881	M3X8 SCREW WITH WASHER			
N620B	8321234	3 NUT			
N701	8821114	3 NUT (35V/31V)			
N701A	4243445	G51 INSULATOR			
N701B	8711412	3X12 PAN HEAD SCREW (35V/31V)			
N701B	4518742	M2.3X12 SCREW WITH WASHER (27V)			
N702B	8821234	3 NUT			
N702C	8813124	WASHER			
N702E	4159411	3X8 KNURL TAPPING SCREW (35V/31V)			
N706A	4520881	M3X8 SCREW WITH WASHER			
N70AA	4520881	M3X8 SCREW WITH WASHER			
N752A	4520881	M3X8 SCREW WITH WASHER			
N901A	4520883	M3X12 SCREW WITH WACHER			
N901B	8781642	4X12 TAPPING SCREW			
N901C	4137974	4X12 TAPPING SCREW WITH WASHER			
N901D	2787531	MICA PLATE			
N901E	8815126	LOCKING WASHER 4			
NC901	2784342	CONDENSER COVER			
NE901	3772201	AC CORD HOLDER			
NMFC	3763751	SK BINDER(35V)			
NWQ2	4520883	M3X12 SCREW WITH WASHER (31UX5B/27UX5B)			
P802	2902263	4P SUB MINI PLUG PIN			
PFJ	2902266	7P SUB MINI PLUG PIN (35V)			
PG3	2661942	CONNECTOR (35V)			
PM	2665272	4P PLUG PIN WITH BASE			
PSR	2902263	4P SUB MINI PLUG PIN			
PVM2	2661756	1P PLUG PIN WITH BASE (31UX5B/27UX5B)			
PW	2661753	PIN PLUG WITH BASE			
PY02	2661756	1P PLUG PIN WITH BASE (35V)			
⚠ U001	2381126	R/C RECEIVER SPS-409-1F (31V/27V)			
U0501	2575453	P IN P UNIT (EXCEPT 27CX3B)			
⚠ U101	2428681	TUNER ET-352A			

WIRING DRAWING OF 27CX3B/C743 FINAL ASSEMBL


ANODE CAP
SILICONE COMPOUND
DY M
E801
P31
SCREEN
CPT P.W.B.
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PURSE LOCØ10
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FOCUS SCREEN
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E801
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SR W
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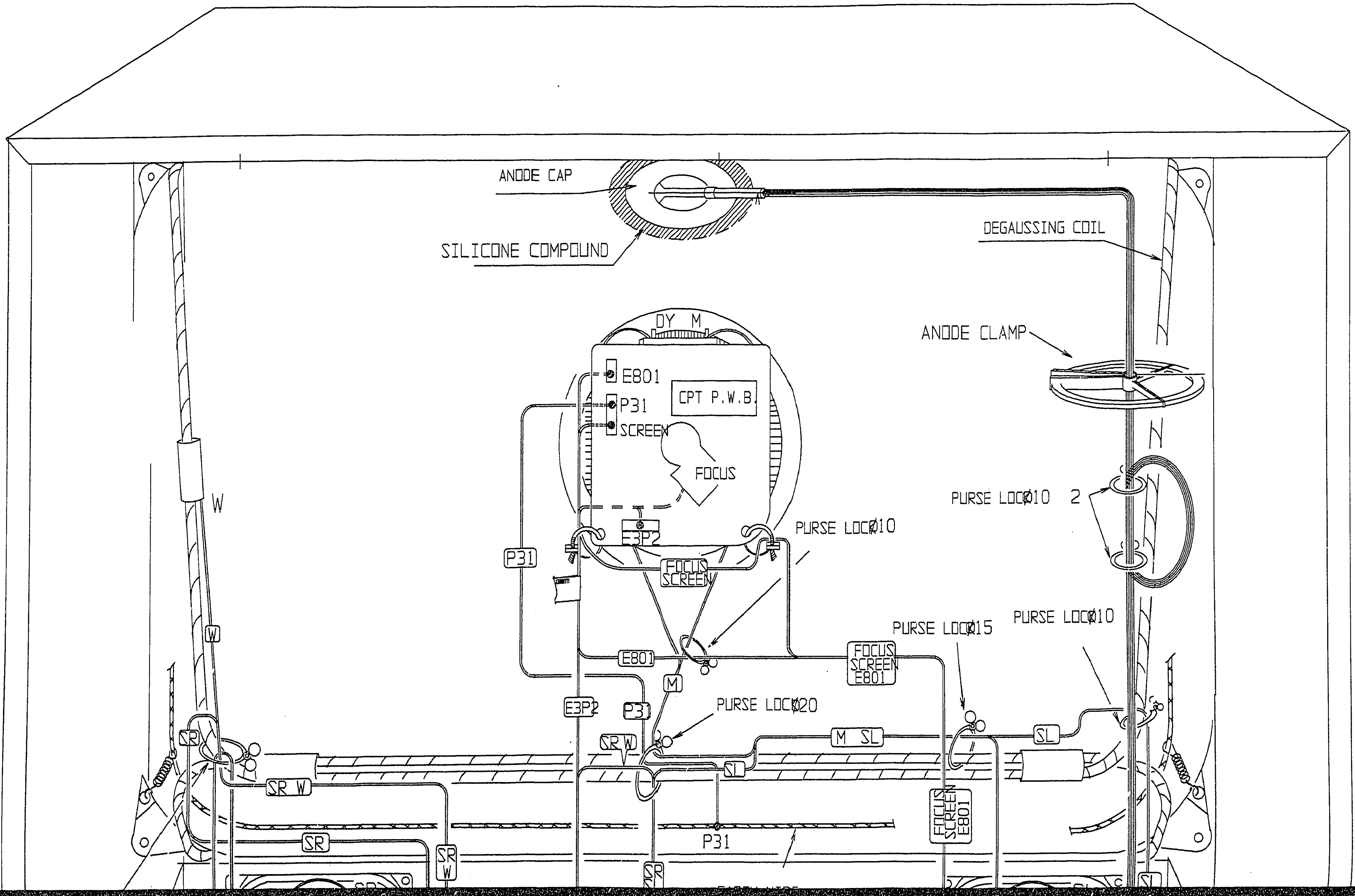
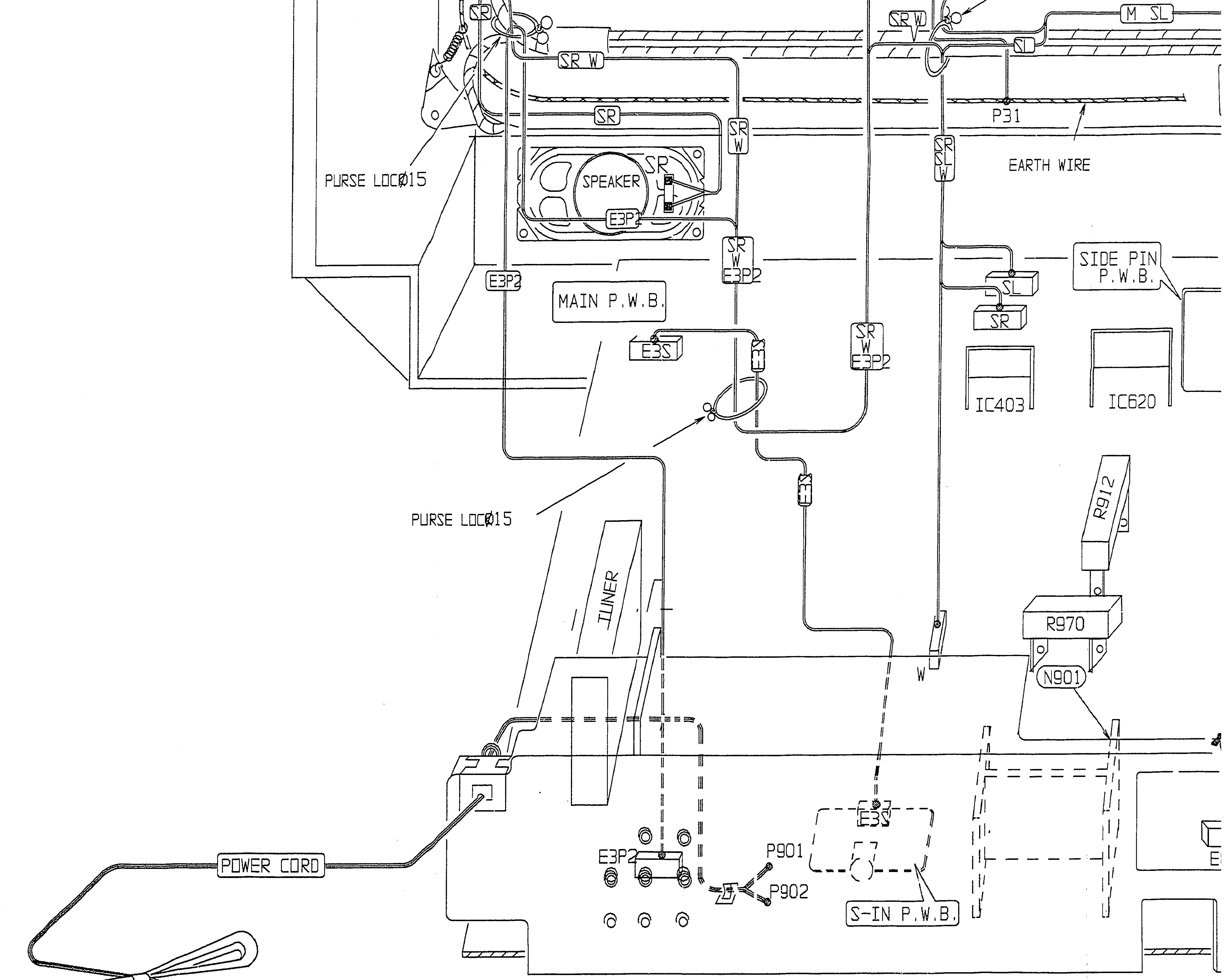
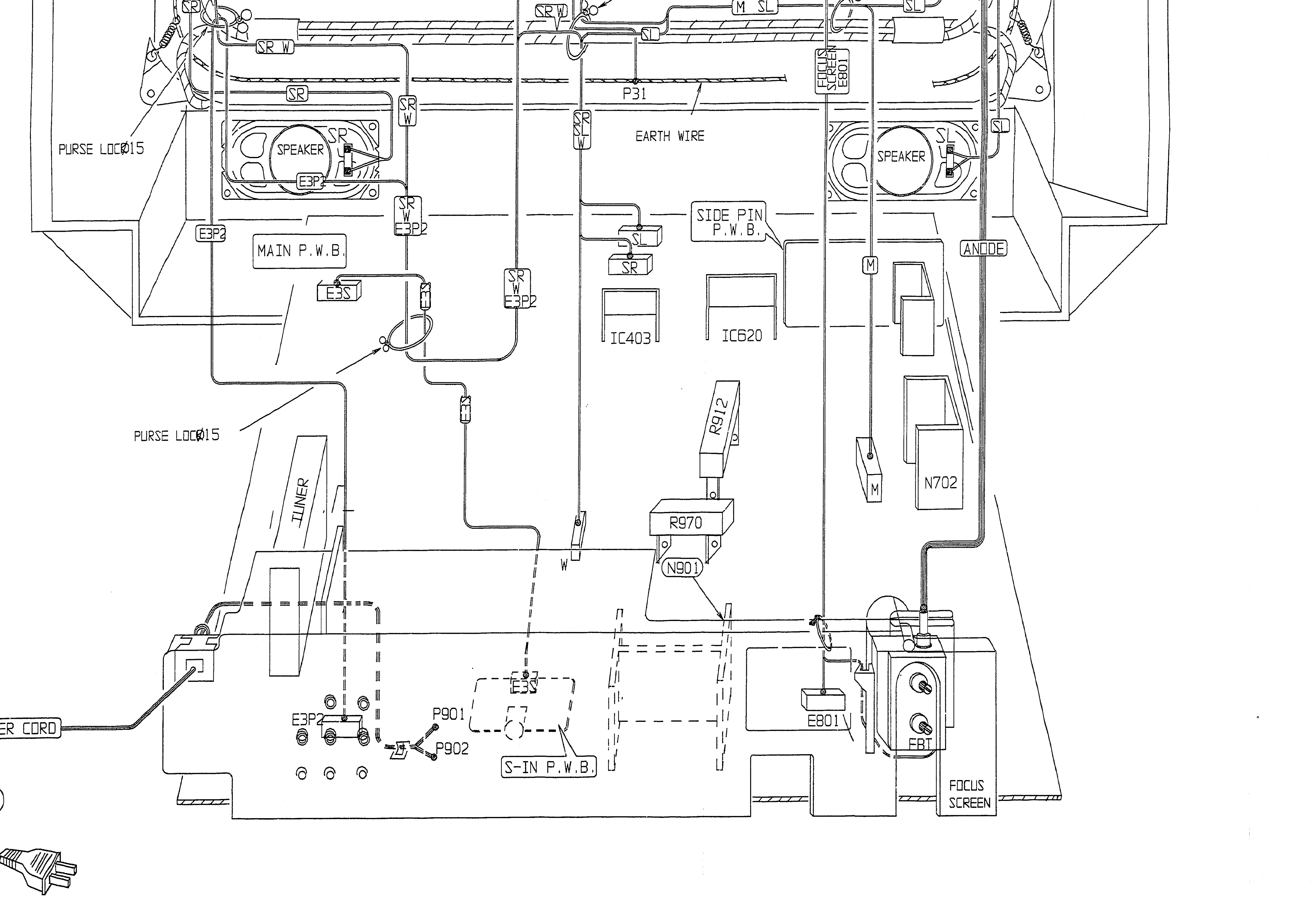
SR

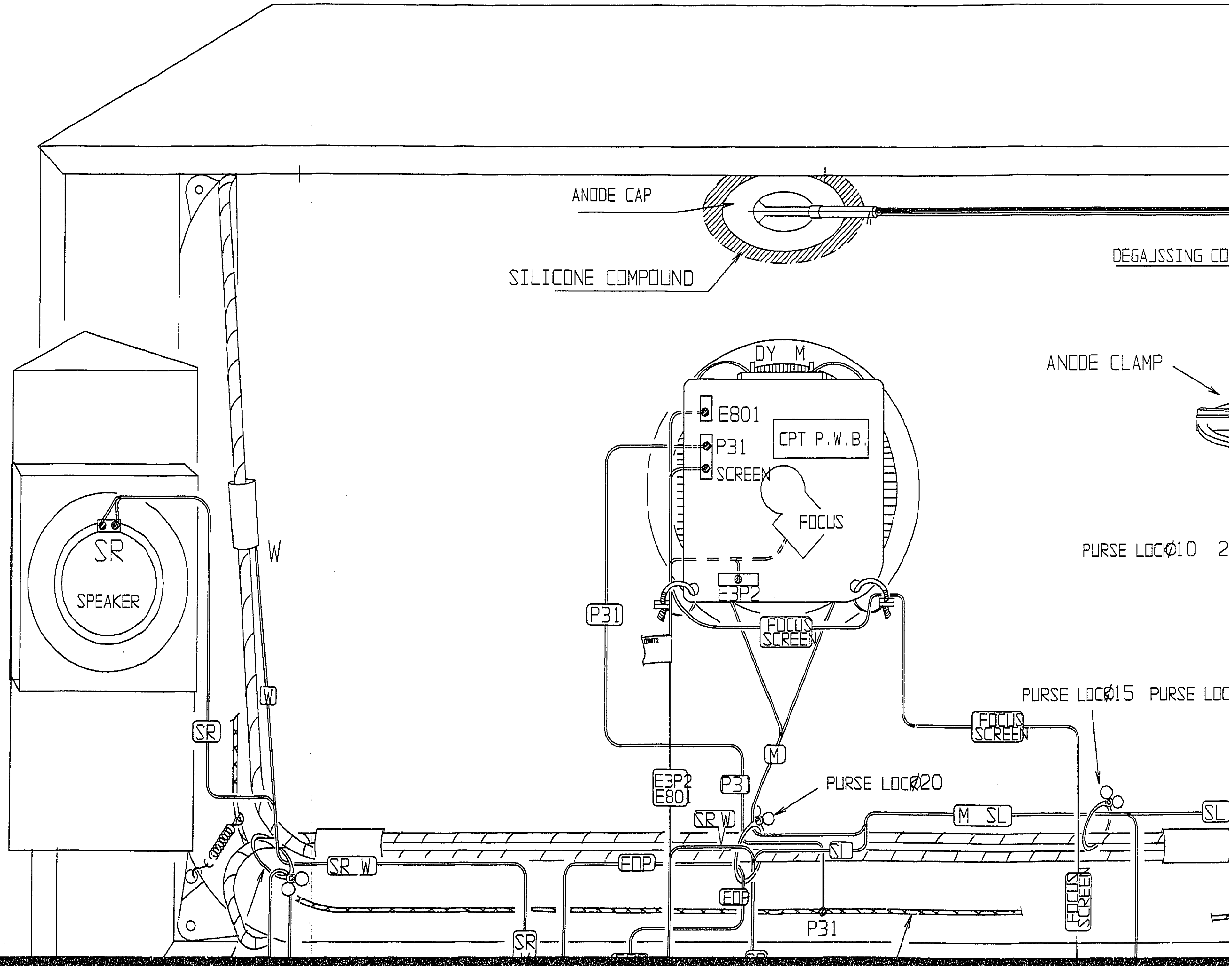
WIRING DRAWING OF 27CX3B/C743 FINAL ASSEMBLY


ANODE CAP
SILICONE COMPOUND
DEGAUSSING COIL
ANODE CLAMP
DY M
E801
P31
SCREEN
CPT P.W.B.
FOCUS
E3P2
P31
FOCUS SCREEN
PURSE LOCØ10
PURSE LOCØ10 2
W
W
PURSE LOCØ15
PURSE LOCØ10
E801
FOCUS SCREEN E801
M
E3P2
P31
PURSE LOCØ20
SR
SR W
M SL
SL
SL
SR W
SR
SR W
P31
FOCUS SCREEN E801
SR
SL

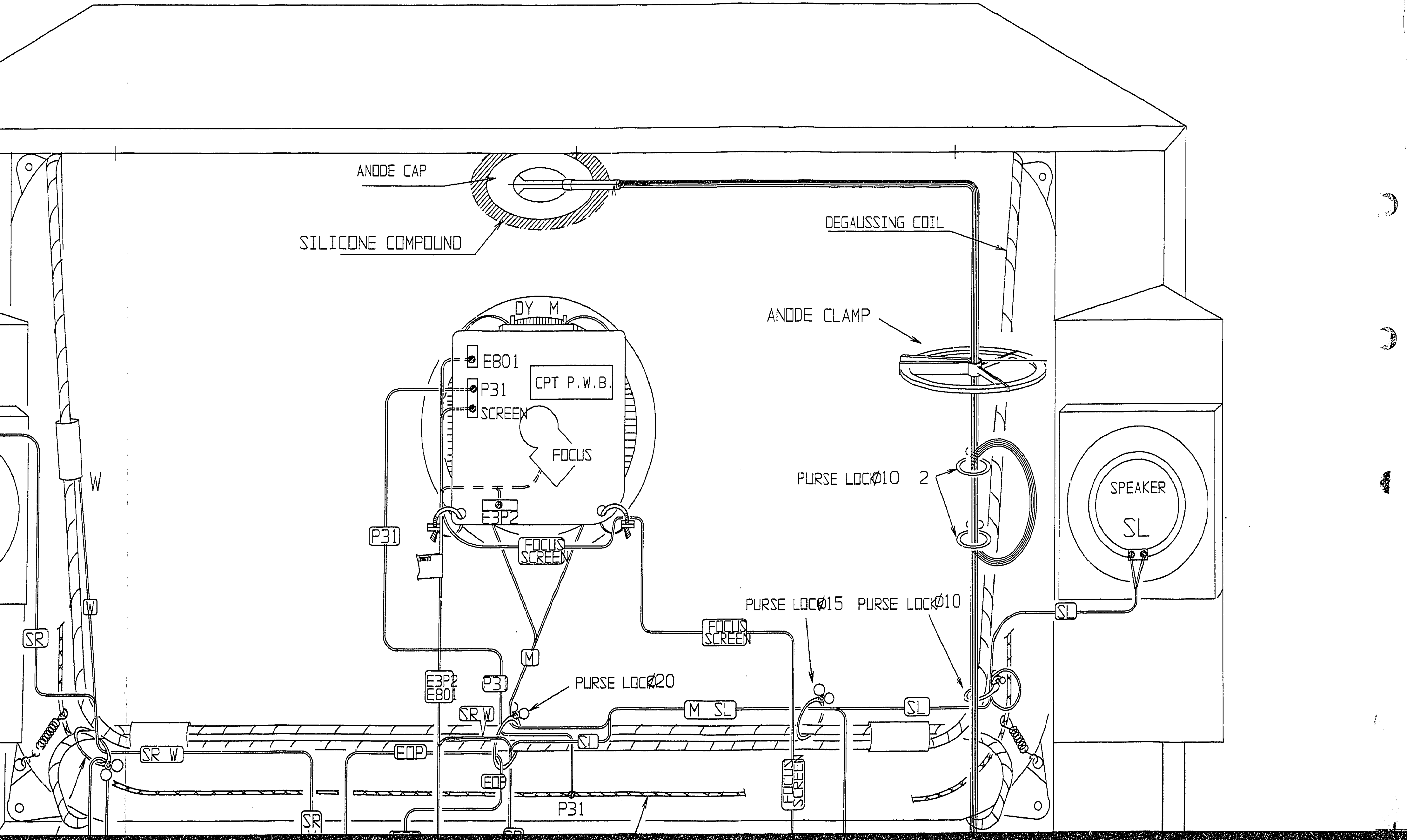

SR
SR W
M SL
SL
SR
SR W
SR W
P31
EARTH WIRE
PURSE LOC∅15
SPEAKER
SR
E3P1
SR SL W
SR W E3P2
E3P2
MAIN P.W.B.
E3S
SR W E3P2
SL
SR
SIDE PIN P.W.B.
IC403
IC620
PURSE LOC∅15
R912
TUNER
R970
N901
W
POWER CORD
E3S
E3P2
P901
P902
S-IN P.W.B.
POWER CORD

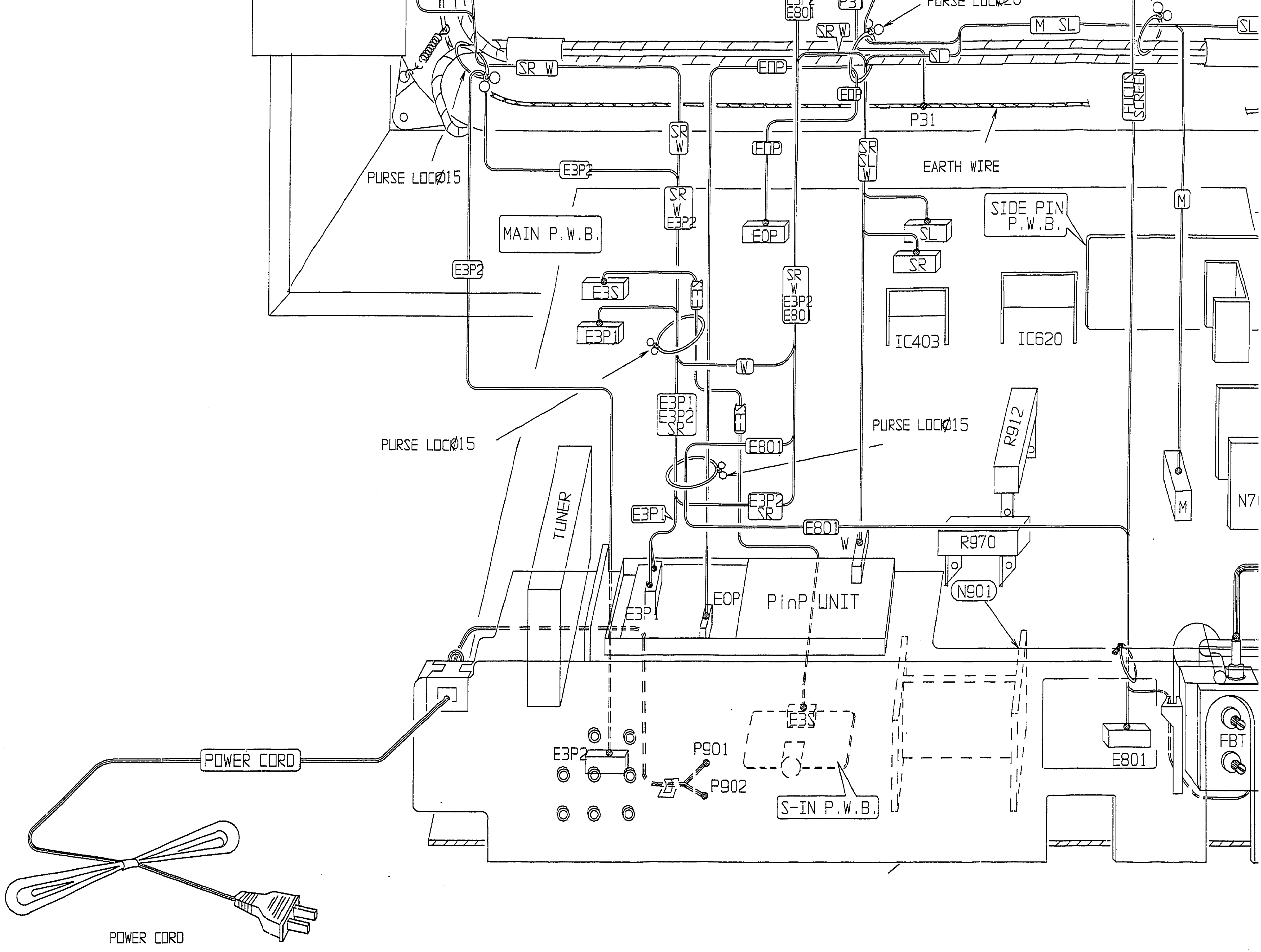

SR
SR W
M SL
SL
SL
SR W
SL
FOCUS SCREEN E801
SR
SR W
P31
EARTH WIRE
SR SL W
SL
PURSE LOCØ15
SPEAKER
SR
E3P2
SPEAKER
SL
SR W E3P2
E3P2
MAIN P.W.B.
SIDE PIN P.W.B.
SL
SR
ANODE
M
E3S
SR W E3P2
IC403
IC620
PURSE LOCØ15
R912
LINER
M
N702
R970
W
N901
E3S
E3P2
P901
P902
S-IN P.W.B.
E801
FBT
FOCUS SCREEN
ER CORD

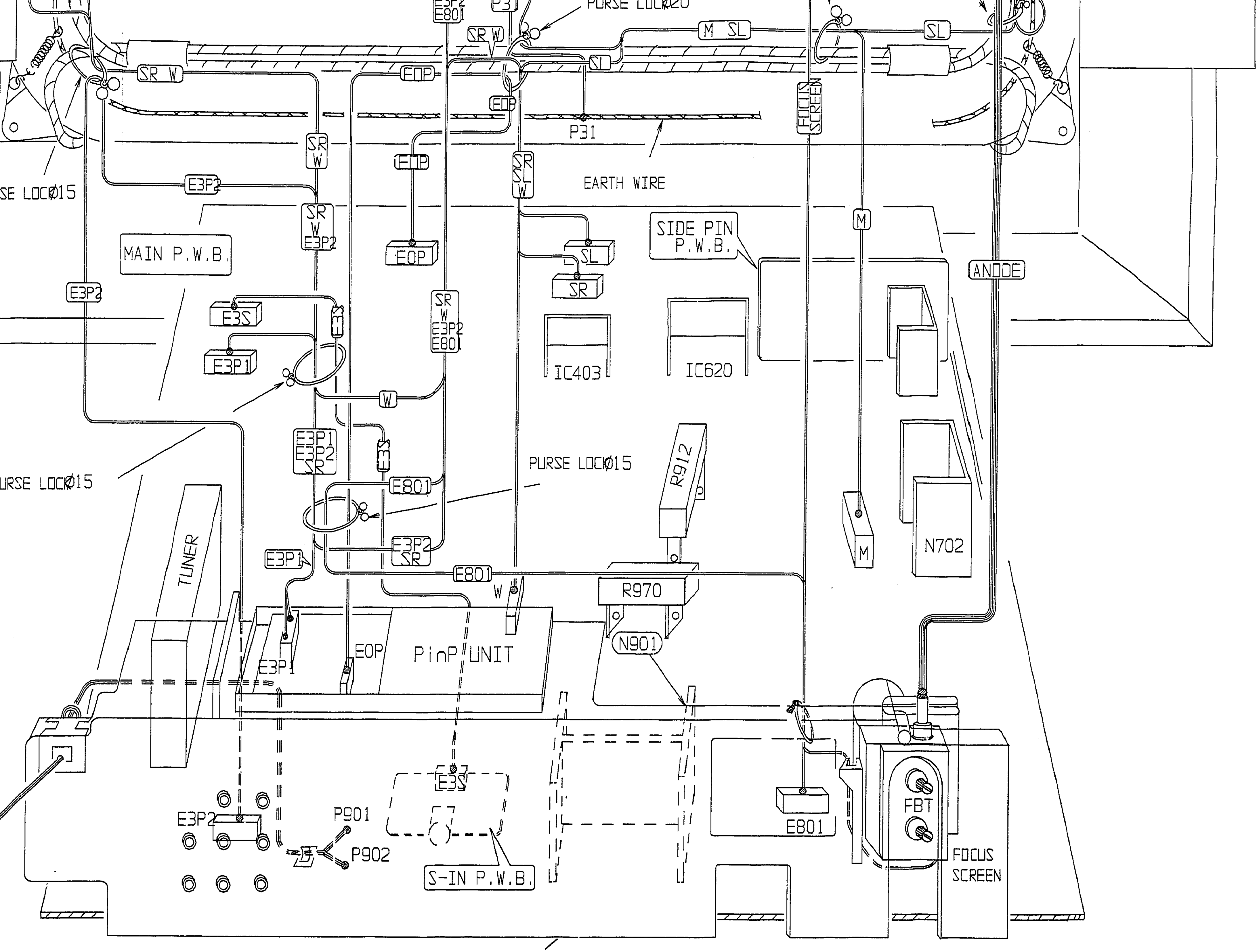
WIRING DRAWING OF 27CX4B/C744 FINAL ASSEMBLY


ANODE CAP
SILICONE COMPOUND
DEGAUSSING CO
ANODE CLAMP
DY M
E801
P31
SCREEN
CPT P.W.B.
FOCUS
PURSE LOCK Ø10 2
SR
SPEAKER
W
W
P31
E3P2
FOCUS SCREEN
PURSE LOCK Ø15 PURSE LOC
FOCUS SCREEN
M
SR
PURSE LOCK Ø20
E3P2 E801
P31
SR W
M SL
SL
SR W
EDP
SL
EDP
P31
FOCUS SCREEN
SR

WIRING DRAWING OF 27CX4B/C744 FINAL ASSEMBLY

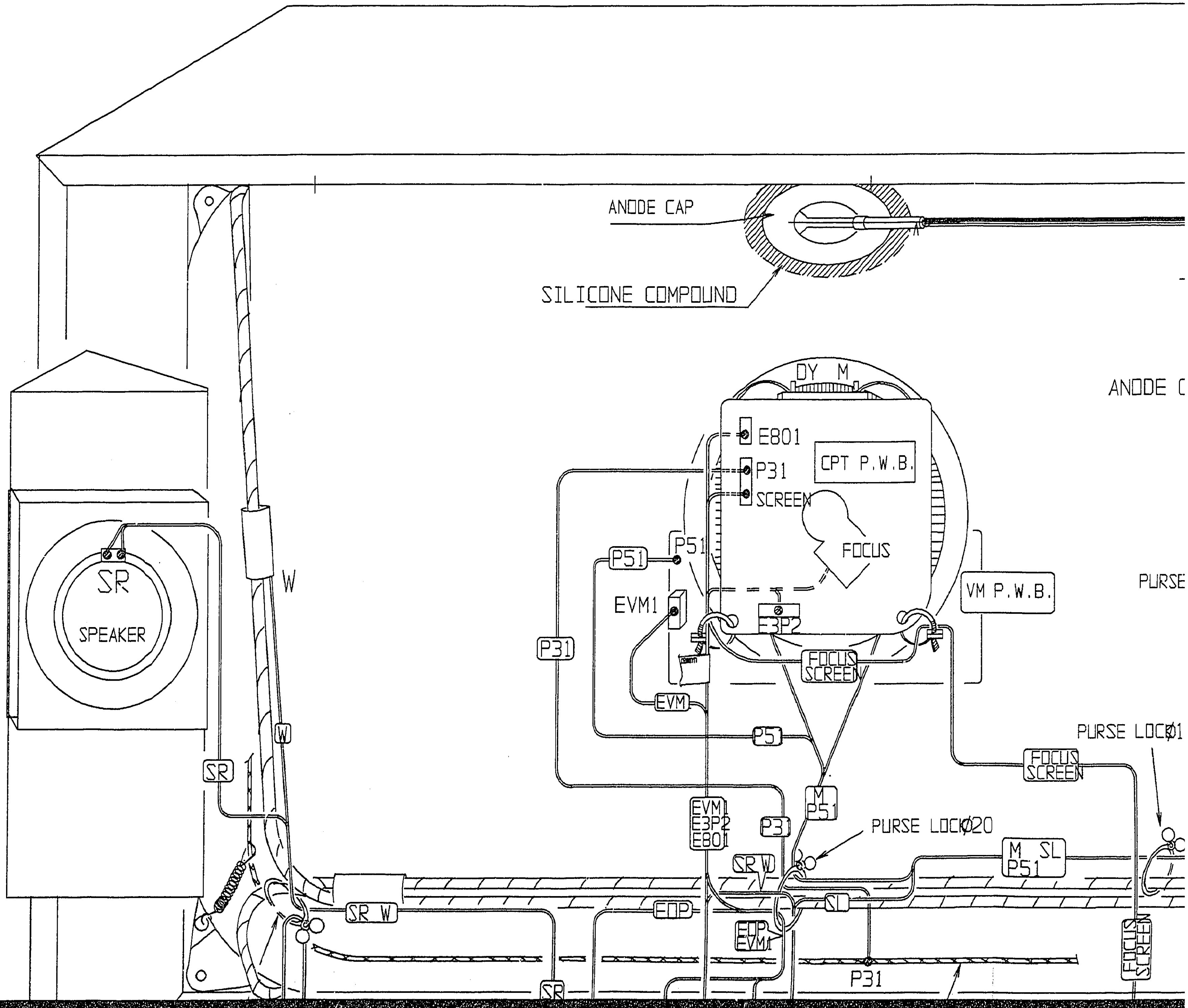

ANODE CAP
SILICONE COMPOUND
DEGAUSSING COIL
ANODE CLAMP
DY M
E801
P31
SCREEN
CPT P.W.B.
FOCUS
E3P2
FOCUS SCREEN
P31
W
W
SR
SR W
EDP
EDP
E3P2 E801
P3
M
SR W
PURSE LOCØ20
M SL
SL
SL
FOCUS SCREEN
FOCUS SCREEN
PURSE LOCØ15
PURSE LOCØ10
PURSE LOCØ10 2
SPEAKER
SL
SL
P31
SR


E3P2
E801
P31
PURSE LOCK20
SR W
M SL
SL
EOP
EOP
P31
EARTH WIRE
FOCUS SCREEN
PURSE LOCØ15
SR W
EOP
SR SL W
E3P2
SR W E3P2
MAIN P.W.B.
EOP
SL
SR
SIDE PIN P.W.B.
M
E3P2
E3S
E3P1
SR W E3P2 E801
IC403
IC620
W
E3P1 E3P2 SR
PURSE LOCØ15
PURSE LOCØ15
R912
E801
TUNER
E3P2 SR
E3P1
E801
W
R970
M
N7
N901
EOP
PinP UNIT
E3P1
E3S
E3P2
P901
P902
S-IN P.W.B.
E801
FBT
POWER CORD
POWER CORD

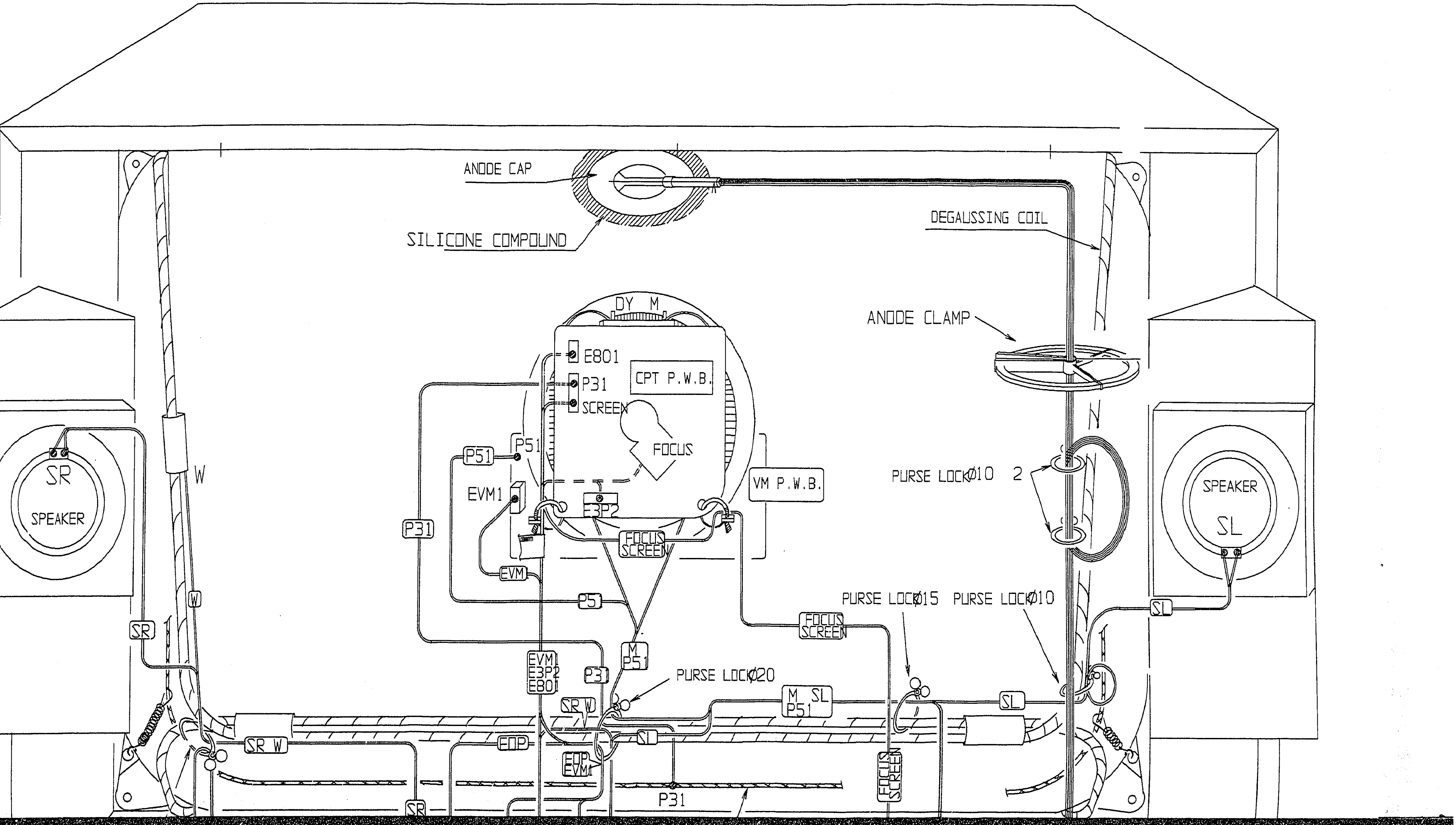


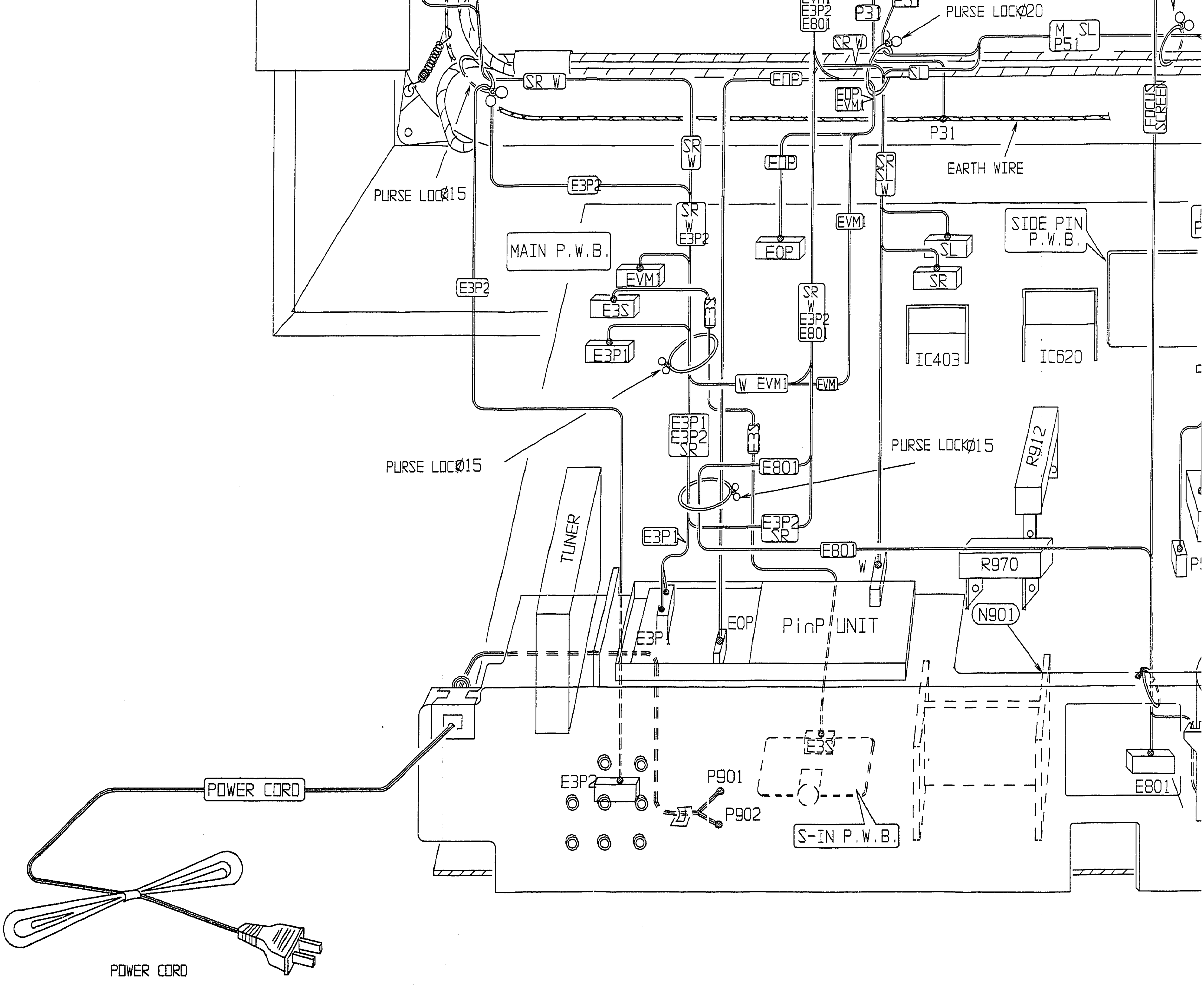
E3P2
E801
P31
PURSE LOCØ20
SR W
M SL
SL
SR W
EOP
SL
EOP
P31
FOCUS SCREEN
SR W
EOP
SR SL W
EARTH WIRE
SE LOCØ15
E3P2
SR W E3P2
M
SIDE PIN P.W.B.
MAIN P.W.B.
EOP
SL
SR
ANODE
E3P2
E3S
SR W E3P2 E801
E3P1
IC403
IC620
W
E3P1 E3P2 SR
PURSE LOCØ15
R912
URSE LOCØ15
E801
TUNER
E3P2 SR
M
N702
E3P1
E801
W
R970
EOP
PinP UNIT
E3P1
N901
E3S
E801
FBT
P901
E3P2
P902
S-IN P.W.B.
FOCUS SCREEN

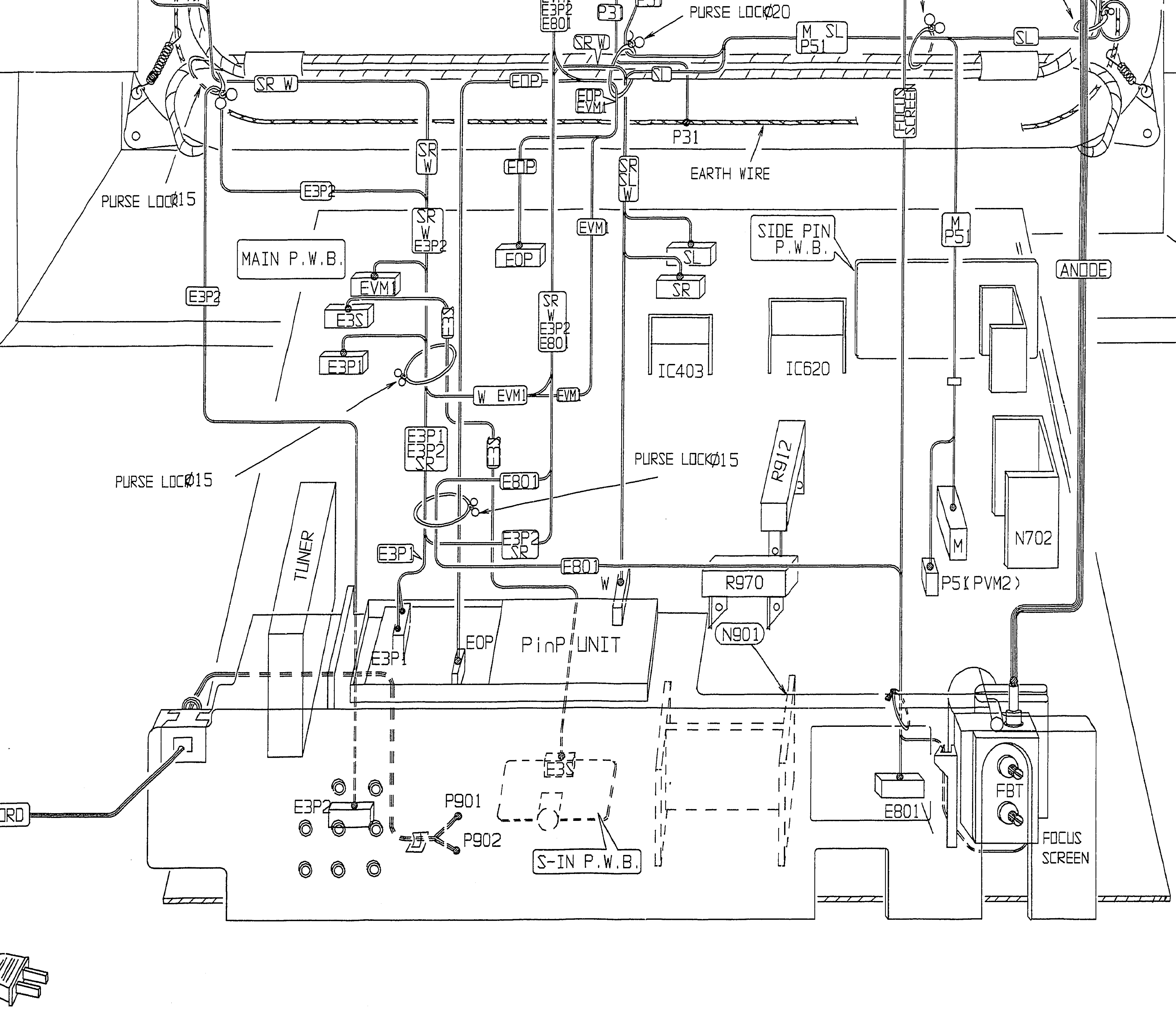
WIRING DRAWING OF 27UX5B/C745 FINAL ASSEMBLY


ANODE CAP
SILICONE COMPOUND
DY M
E801
P31
SCREEN
CPT P.W.B.
FOCUS
P51
P51
EVM1
E3P2
VM P.W.B.
ANODE C
PURSE
P31
FOCUS SCREEN
EVM
P51
FOCUS SCREEN
PURSE LOCØ1
SR
SPEAKER
W
W
SR
M P51
EVM1 E3P2 E801
P31
PURSE LOCØ20
M SL P51
SR W
SR W
SL
EDP
EDP EVM1
P31
SR
FOCUS SCREEN

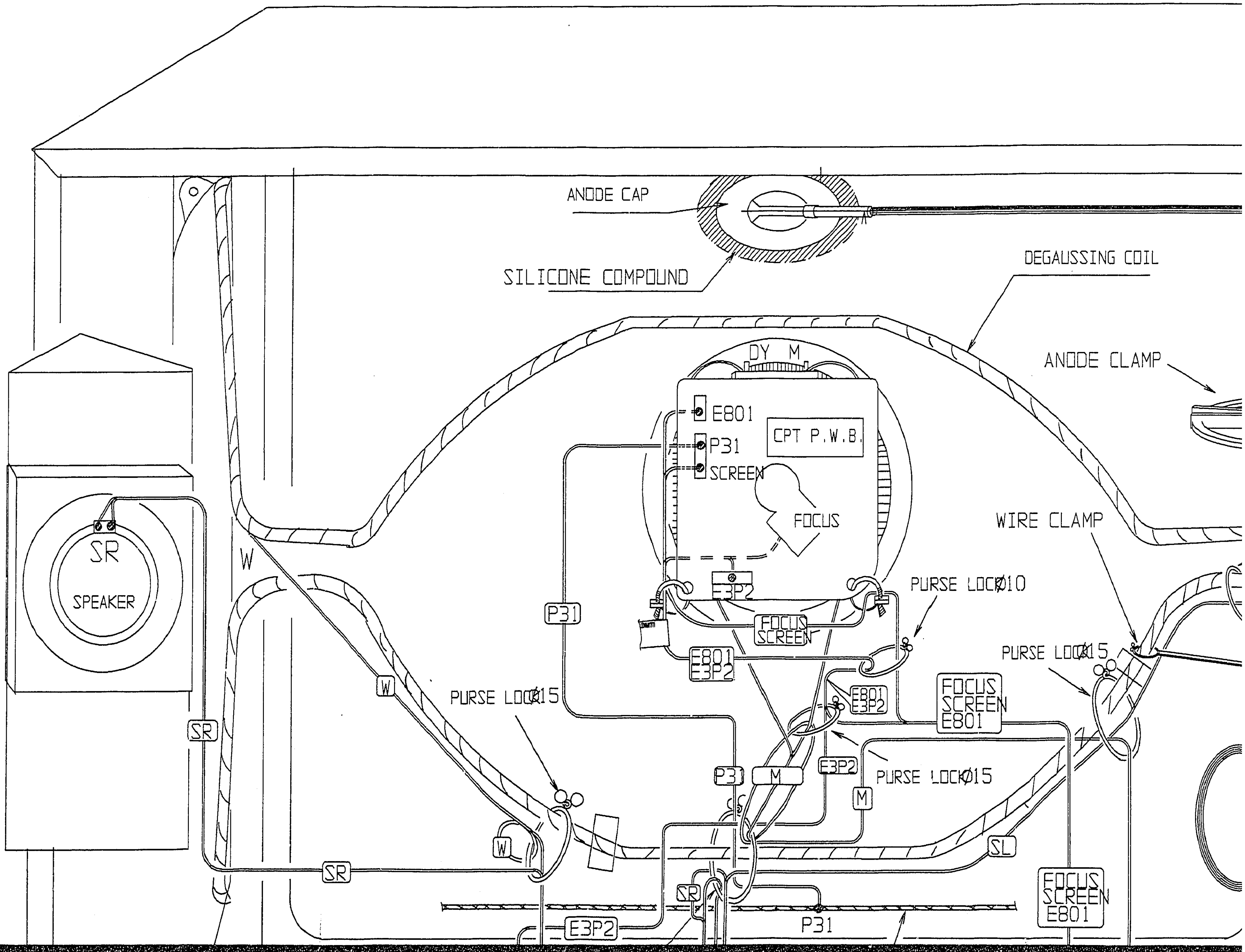
WIRING DRAWING OF 27UX5B/C745 FINAL ASSEMBLY


ANODE CAP
SILICONE COMPOUND
DEGAUSSING COIL
DY M
E801
P31
SCREEN
CPT P.W.B.
FOCUS
P51
P51
EVM1
P31
VM P.W.B.
E3P2
FOCUS SCREEN
ANODE CLAMP
PURSE LOCKØ10 2
SR
SPEAKER
SPEAKER
SL
W
EVM
P51
W
SR
FOCUS SCREEN
PURSE LOCKØ15
PURSE LOCKØ10
SL
M P51
EVM1 E3P2 E801
P31
PURSE LOCKØ20
SR W
M SL P51
SL
SR W
EDP
SL
EDP EVM1
FOCUS SCREEN
P31
SR

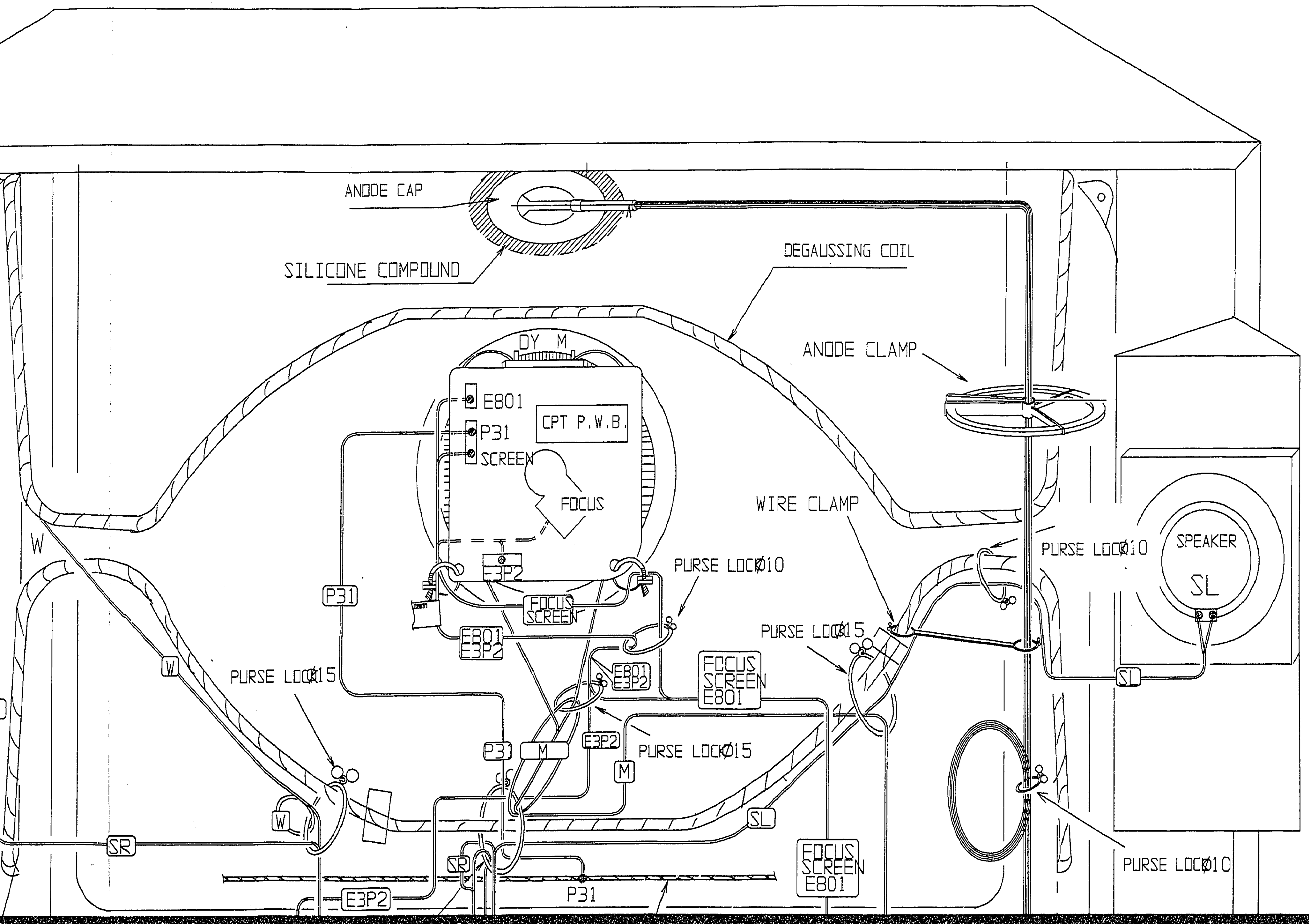

EVM1
E3P2
E801
P31
PURSE LOCK Ø20
M SL
P51
SR W
SL
EOP
EOP
EVM1
FOCUS
SCREEN
P31
EARTH WIRE
PURSE LOCKØ15
SR
W
E3P2
EOP
SR
SL
W
SR
W
E3P2
EVM1
EOP
SIDE PIN
P.W.B.
MAIN P.W.B.
EVM1
SL
SR
E3P2
E3S
SR
W
E3P2
E801
E3P1
IC403
IC620
W EVM1
EVM
PURSE LOCØ15
E3P1
E3P2
SR
PURSE LOCKØ15
R912
E801
TUNER
E3P2
SR
E3P1
E801
W
R970
EOP
PinP UNIT
E3P1
N901
E3S
E3P2
P901
P902
S-IN P.W.B.
E801
POWER CORD
POWER CORD

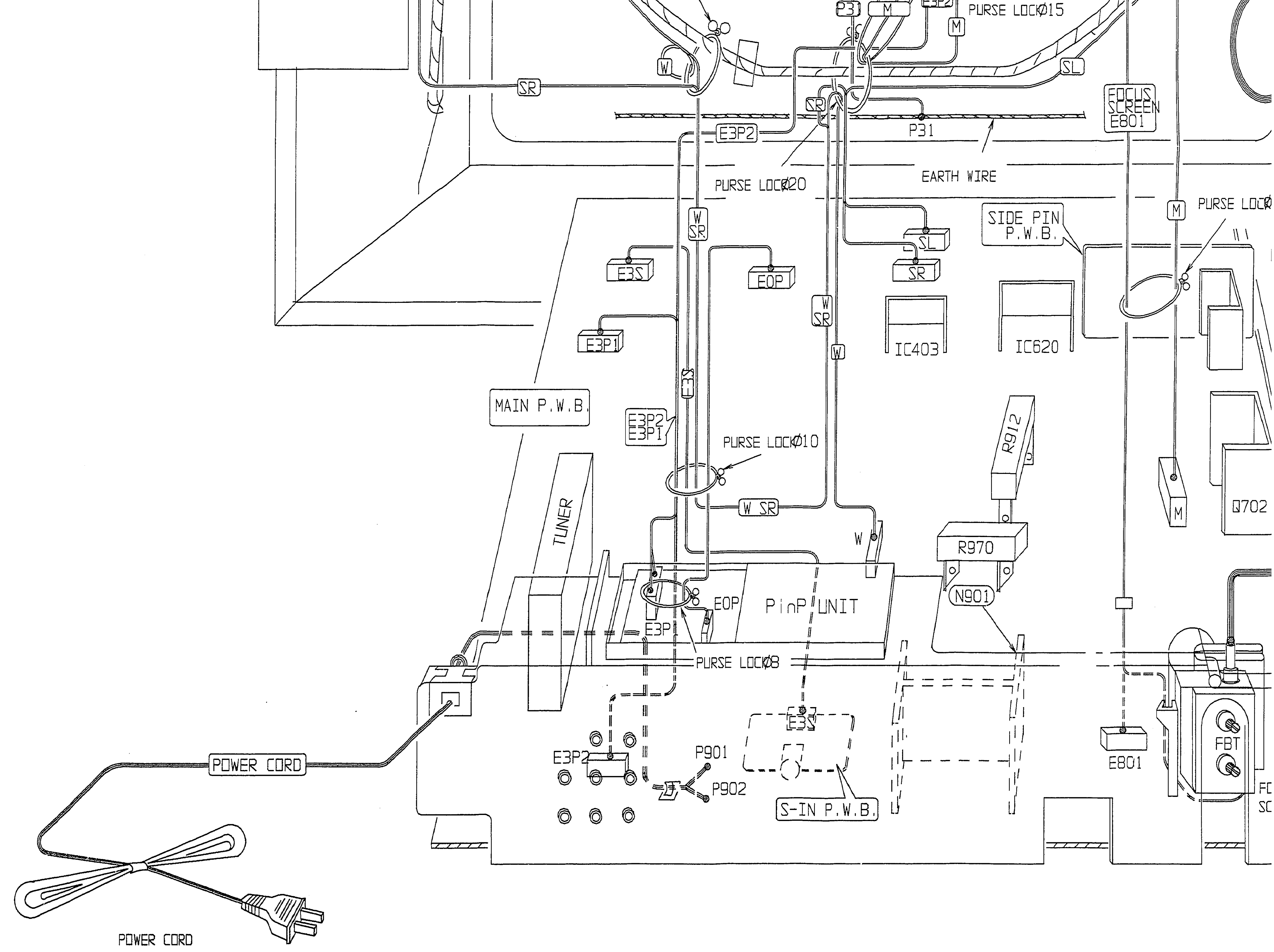

E3P2
E801
P31
PURSE LOCKØ20
M SL
P51
SL
SR W
SR W
EOP
EOP
EVM1
SL
FOCUS SCREEN
P31
EARTH WIRE
SR W
EOP
SR SL W
PURSE LOCKØ15
E3P2
SR W E3P2
EVM1
MAIN P.W.B.
EOP
SL
SIDE PIN P.W.B.
M P51
ANODE
SR
EVM1
E3P2
E3S
SR W E3P2 E801
IC403
IC620
E3P1
W EVM1
EVM1
E3P1 E3P2 SR
R912
PURSE LOCKØ15
PURSE LOCØ15
E801
M
N702
E3P2 SR
TUNER
E3P1
E801
W
R970
P5(PVM2)
EOP
PinP UNIT
E3P1
N901
E3S
E3P2
P901
P902
FBT
E801
FOCUS SCREEN
S-IN P.W.B.
ORD

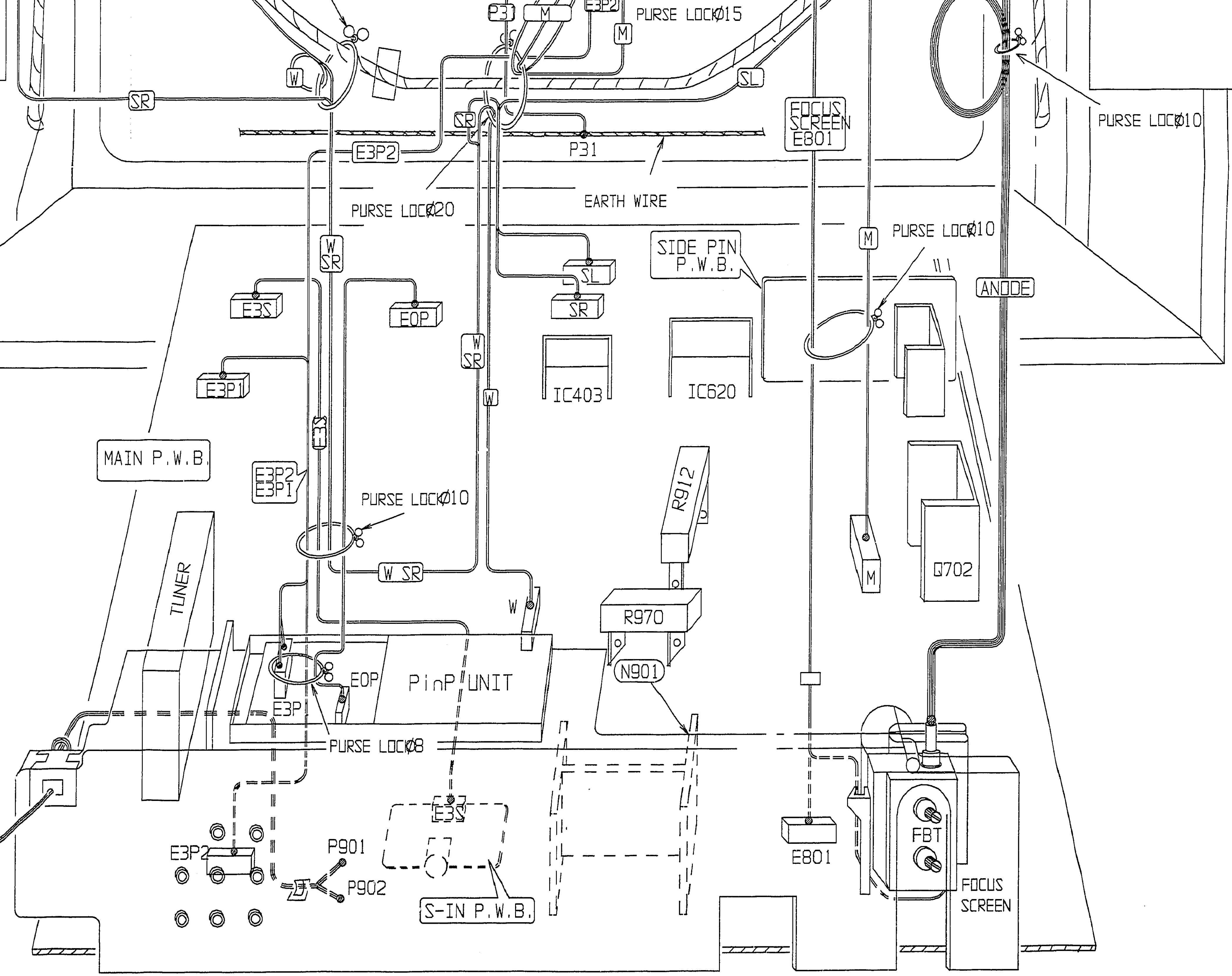
WIRING DRAWING OF 31CX4B/CY44 FINAL ASSEMBLY


ANODE CAP
SILICONE COMPOUND
DEGAUSSING COIL
ANODE CLAMP
DY M
E801
P31
SCREEN
CPT P.W.B.
FOCUS
E3P2
WIRE CLAMP
PURSE LOCKØ10
PURSE LOCKØ15
SR
SPEAKER
W
P31
W
FOCUS SCREEN
E801 E3P2
E801 E3P2
PURSE LOCKØ15
FOCUS SCREEN E801
PURSE LOCKØ15
SR
P31
M
E3P2
M
W
SL
SR
SR
E3P2
P31
FOCUS SCREEN E801

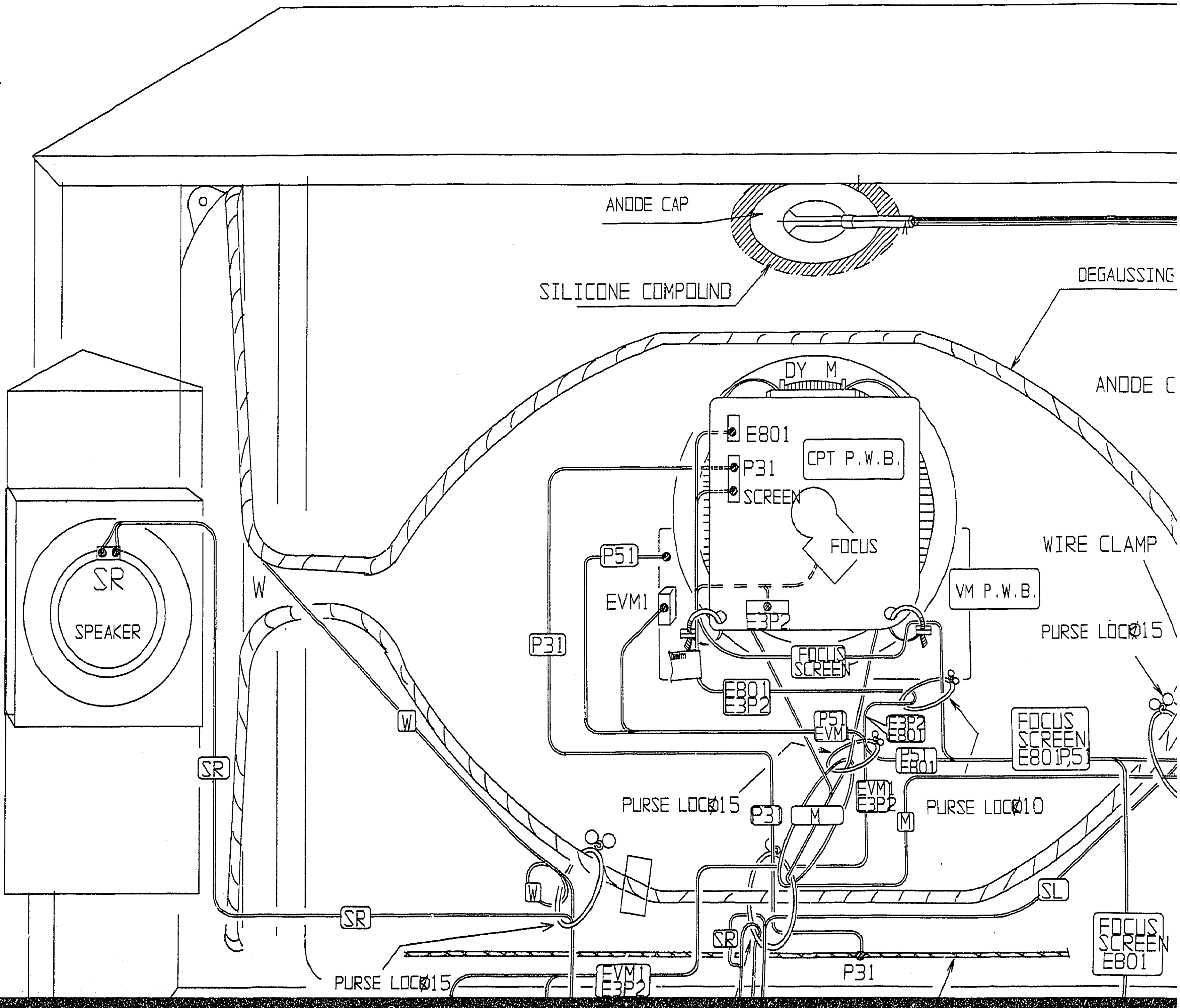
WIRING DRAWING OF 31CX4B/CY44 FINAL ASSEMBLY


ANODE CAP
SILICONE COMPOUND
DEGAUSSING COIL
ANODE CLAMP
DY M
E801
P31
SCREEN
CPT P.W.B.
FOCUS
WIRE CLAMP
PURSE LOCKØ10
SPEAKER
SL
W
P31
E3P2
FOCUS SCREEN
PURSE LOCKØ10
E801 E3P2
PURSE LOCKØ15
E801 E3P2
FOCUS SCREEN E801
W
PURSE LOCKØ15
PURSE LOCKØ15
SL
P31
M
E3P2
M
W
SR
SL
CR
FOCUS SCREEN E801
E3P2
P31
PURSE LOCKØ10

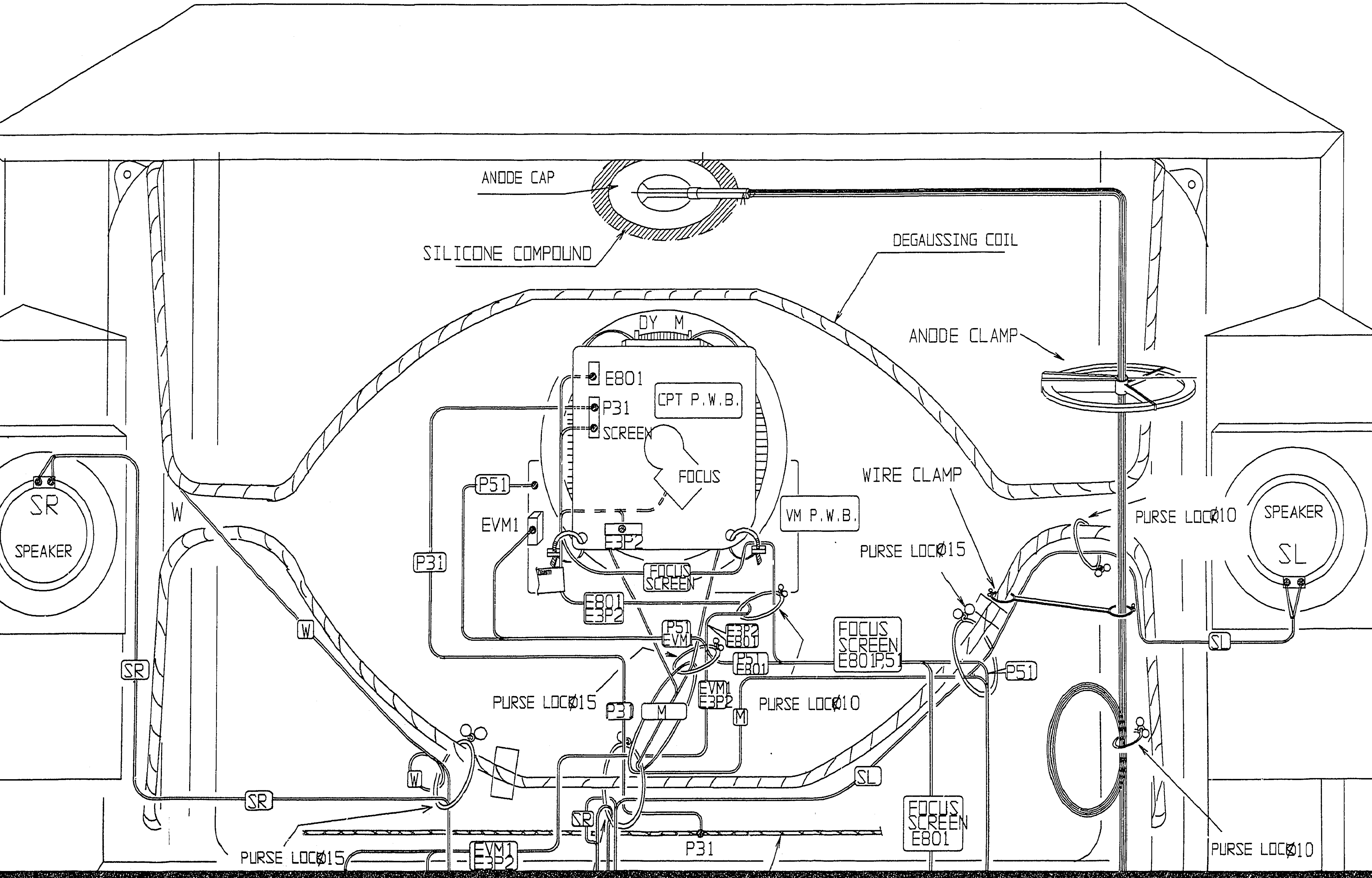

P31
M
E3P2
PURSE LOCKØ15
M
W
SR
SL
FOCUS SCREEN E801
SR
E3P2
P31
EARTH WIRE
PURSE LOCKØ20
M
PURSE LOCKØ
W SR
SIDE PIN P.W.B.
SL
SR
E3S
EOP
W SR
E3P1
IC403
IC620
W
E3S
MAIN P.W.B.
E3P2 E3P1
PURSE LOCKØ10
R912
TUNER
W SR
W
R970
M
Q702
N901
EOP
PinP UNIT
E3P1
PURSE LOCKØ8
E3S
E3P2
P901
P902
S-IN P.W.B.
E801
FBT
FO
SC
POWER CORD
POWER CORD

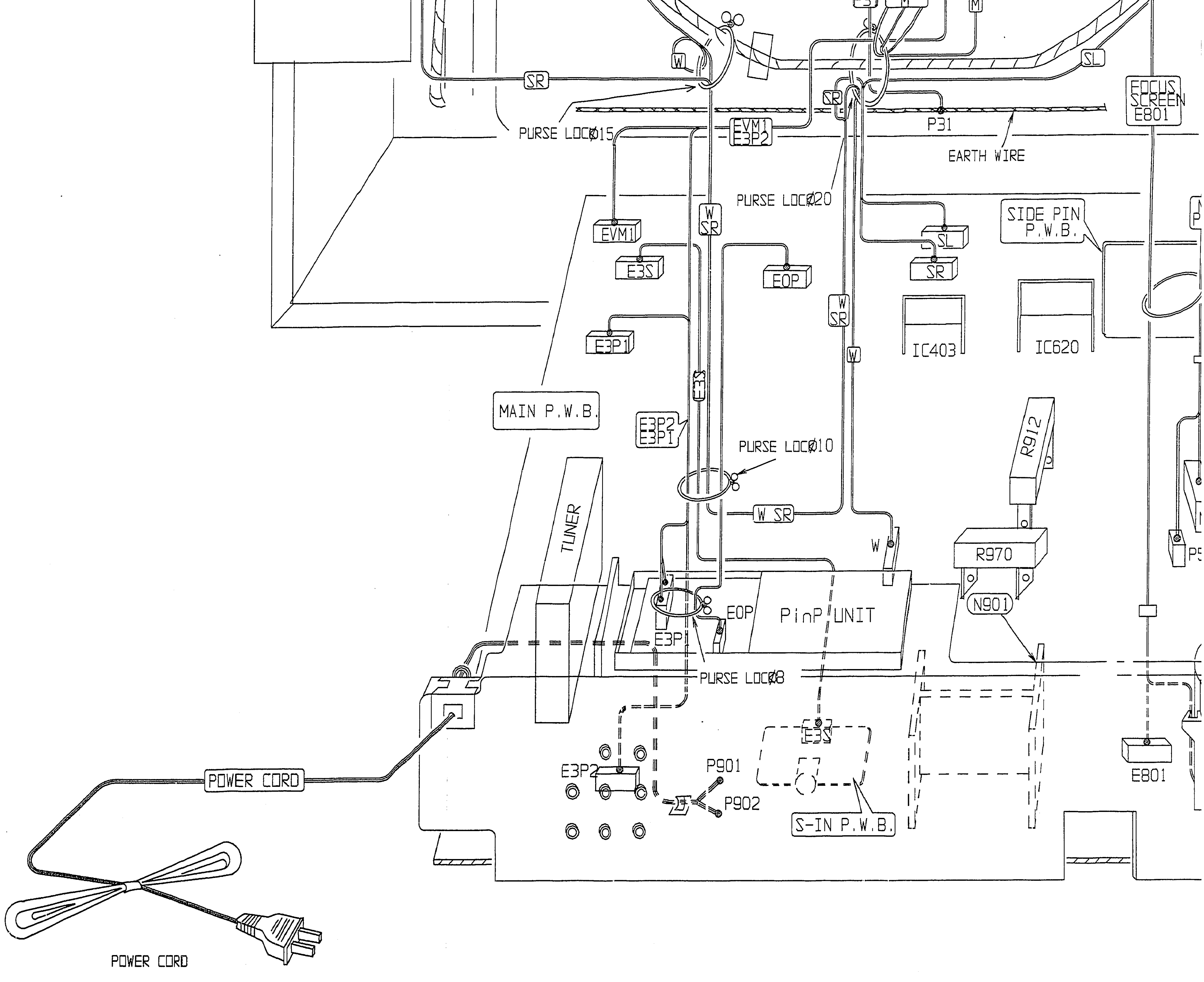

P31
M
E3P2
PURSE LOCØ15
W
SR
M
SL
FOCUS SCREEN E801
PURSE LOCØ10
SR
E3P2
P31
EARTH WIRE
PURSE LOCØ20
M
PURSE LOCØ10
SIDE PIN P.W.B.
W SR
E3S
EOP
SL
SR
ANODE
W SR
E3P1
IC403
IC620
W
MAIN P.W.B.
E3P2 E3P1
R912
PURSE LOCØ10
TUNER
W SR
W
M
Q702
R970
N901
EOP
PinP UNIT
E3P
PURSE LOCØ8
E3S
E3P2
P901
P902
S-IN P.W.B.
E801
FBT
FOCUS SCREEN

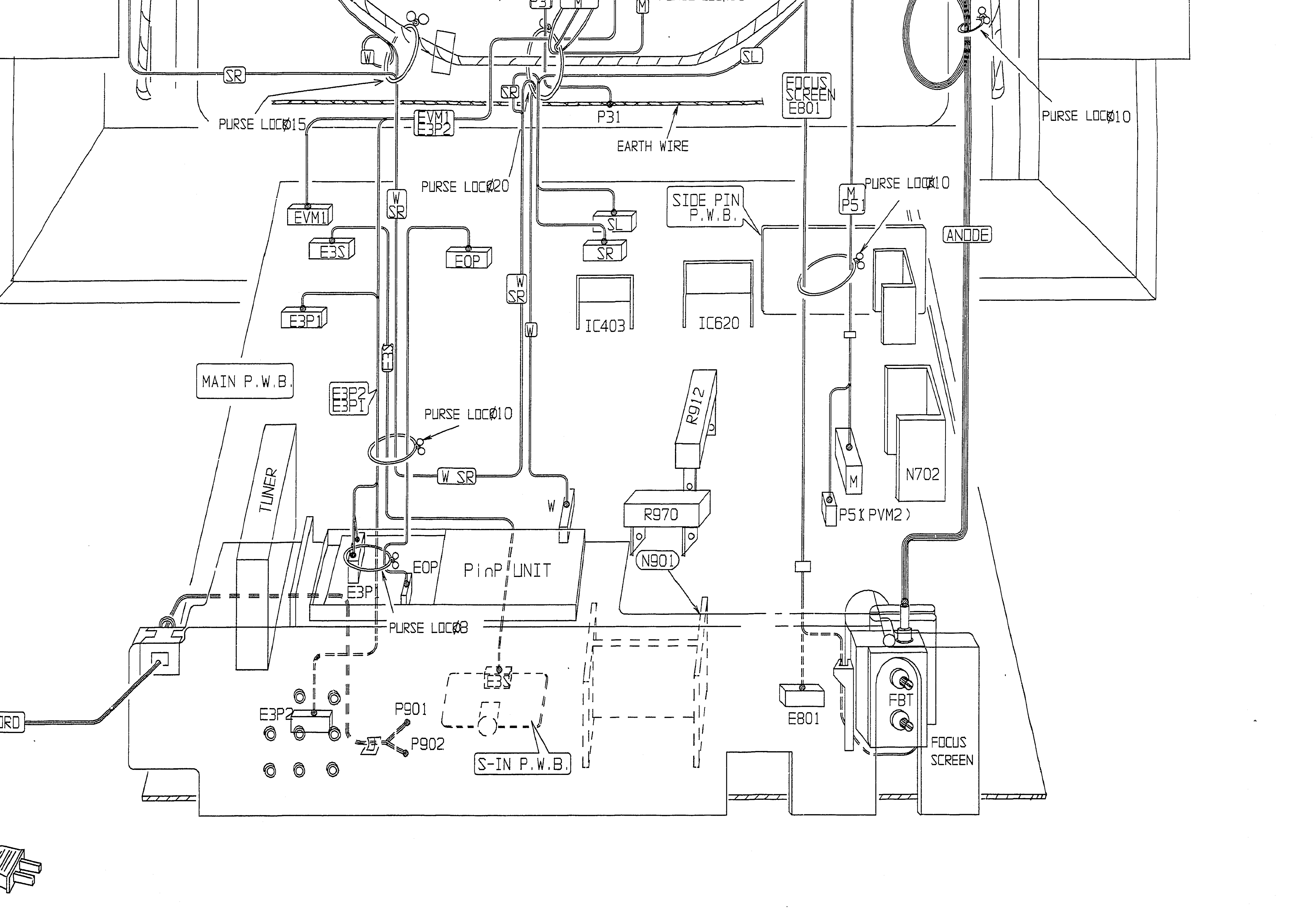
WIRING DRAWING OF 31UX5B/CY45 FINAL ASSEMBLY


ANODE CAP
SILICONE COMPOUND
DEGAUSSING
ANODE C
DY M
E801
P31
SCREEN
CPT P.W.B.
FOCUS
WIRE CLAMP
P51
EVM1
VM P.W.B.
PURSE LOCØ15
E3P2
P31
FOCUS SCREEN
E801 E3P2
P51 EVM
E3P2 E801
P51 E801
FOCUS SCREEN E801P51
PURSE LOCØ15
P31
M
EVM1 E3P2
M
PURSE LOCØ10
SL
SR
SPEAKER
W
W
W
SR
SR
SR
PURSE LOCØ15
EVM1 E3P2
P31
FOCUS SCREEN E801

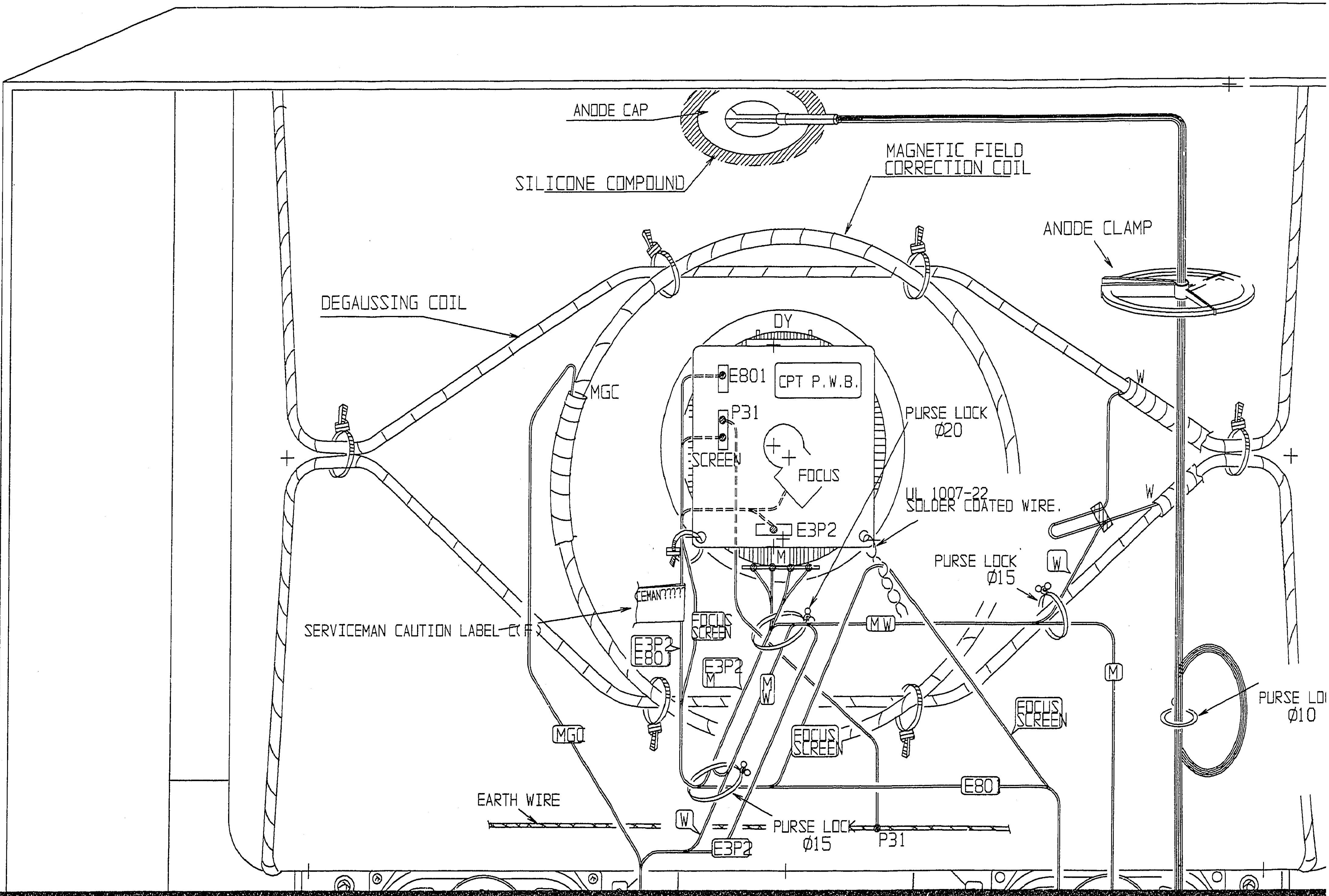
WIRING DRAWING OF 31UX5B/CY45 FINAL ASSEMBLY


ANODE CAP
SILICONE COMPOUND
DEGAUSSING COIL
ANODE CLAMP
DY M
E801
P31
SCREEN
CPT P.W.B.
FOCUS
WIRE CLAMP
P51
EVM1
VM P.W.B.
PURSE LOCØ10
SPEAKER
SL
SR
SPEAKER
W
P31
PURSE LOCØ15
FOCUS SCREEN
E801 E3P2
E3P2
P51 EVM
E3P2 E801
P51 E801
FOCUS SCREEN E801P,P51
P51
W
SR
PURSE LOCØ15
P31
M
EVM1 E3P2
M
PURSE LOCØ10
W
SL
SR
FOCUS SCREEN E801
P31
PURSE LOCØ15
EVM1 E3P2
PURSE LOCØ10

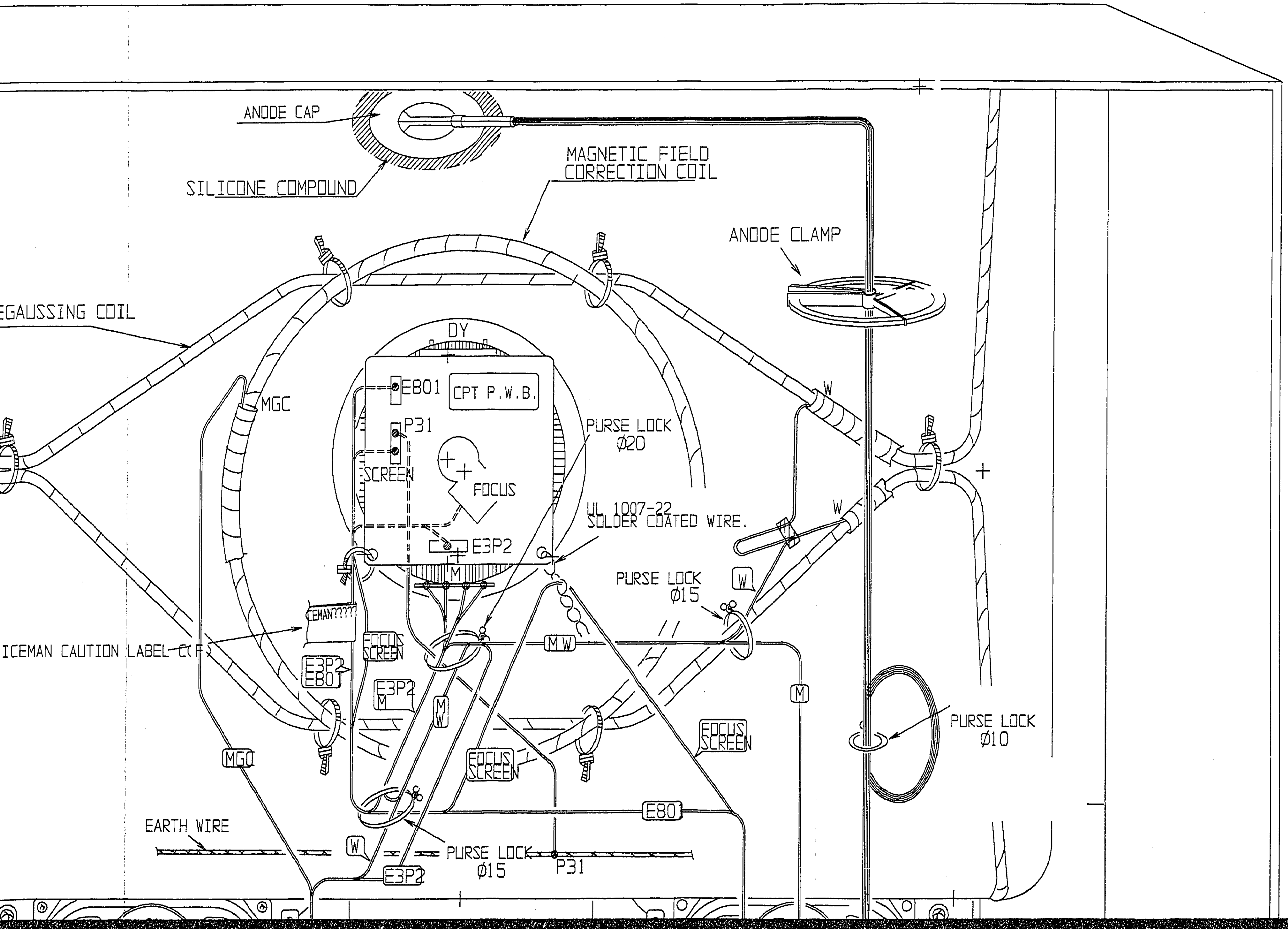

SR
W
M
SL
FOCUS SCREEN E801
SR
PURSE LOC015
EVM1 E3P2
P31
EARTH WIRE
PURSE LOC020
W SR
EVM1
E3S
EOP
SL
SR
SIDE PIN P.W.B.
E3P1
W SR
W
IC403
IC620
E3S
MAIN P.W.B.
E3P2 E3P1
PURSE LOC010
R912
TUNER
W SR
W
R970
EOP
PinP UNIT
N901
E3P
PURSE LOC08
P5
E3S
E3P2
P901
P902
S-IN P.W.B.
E801
POWER CORD
POWER CORD

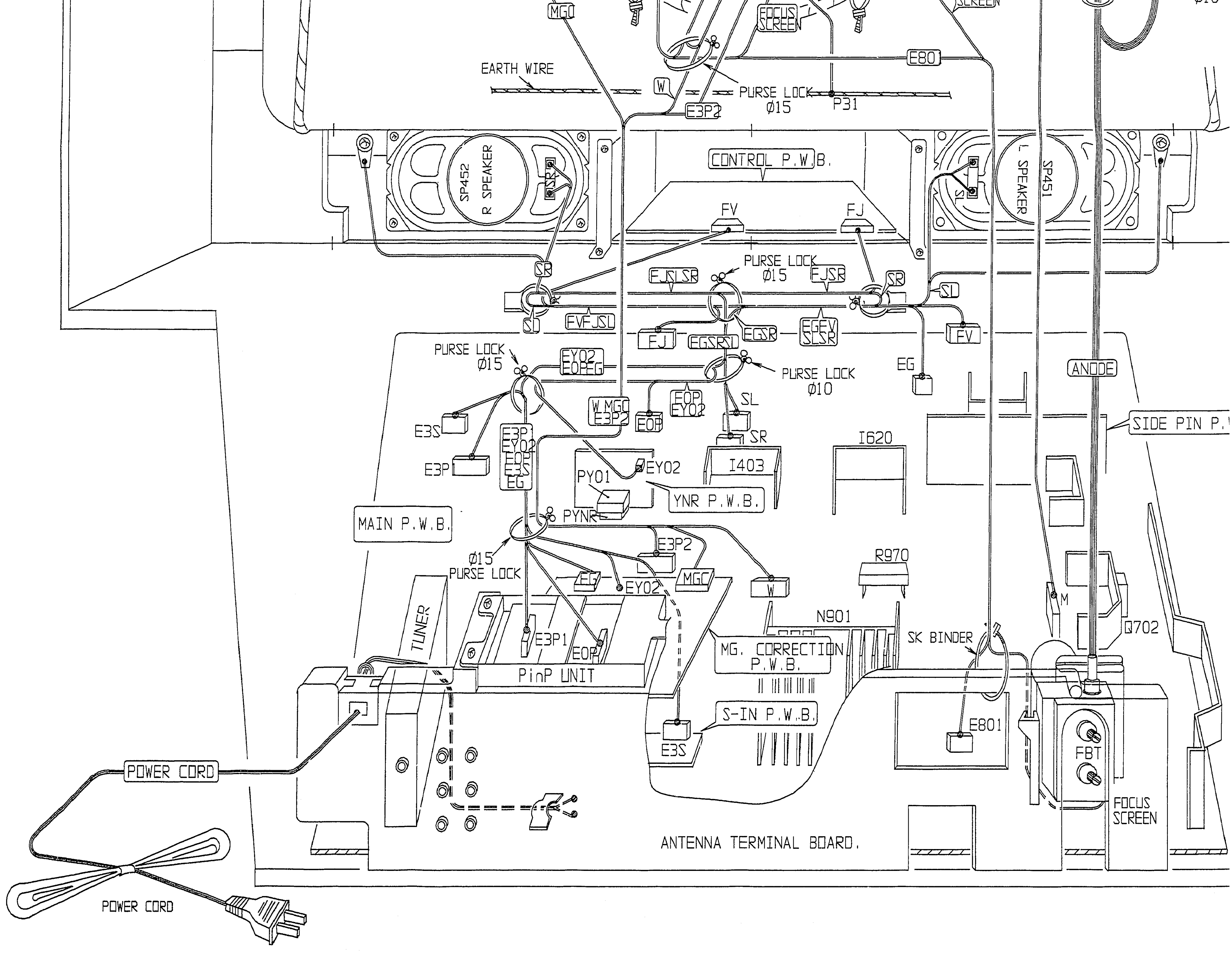

SR
W
PURSE LOC015
SR
EVM1
E3P2
SL
P31
EARTH WIRE
FOCUS
SCREEN
E801
PURSE LOC010
PURSE LOC020
EVM1
E3S
EOP
W
SR
SL
SR
SIDE PIN
P.W.B.
M
P51
PURSE LOC010
ANODE
E3P1
W
SR
W
IC403
IC620
MAIN P.W.B.
E3P2
E3P1
PURSE LOC010
R912
TUNER
W SR
N702
M
W
R970
P51(PVM2)
EOP
PinP UNIT
N901
E3P1
PURSE LOC08
E3S
FBT
E3P2
P901
P902
E801
FOCUS
SCREEN
S-IN P.W.B.
RD

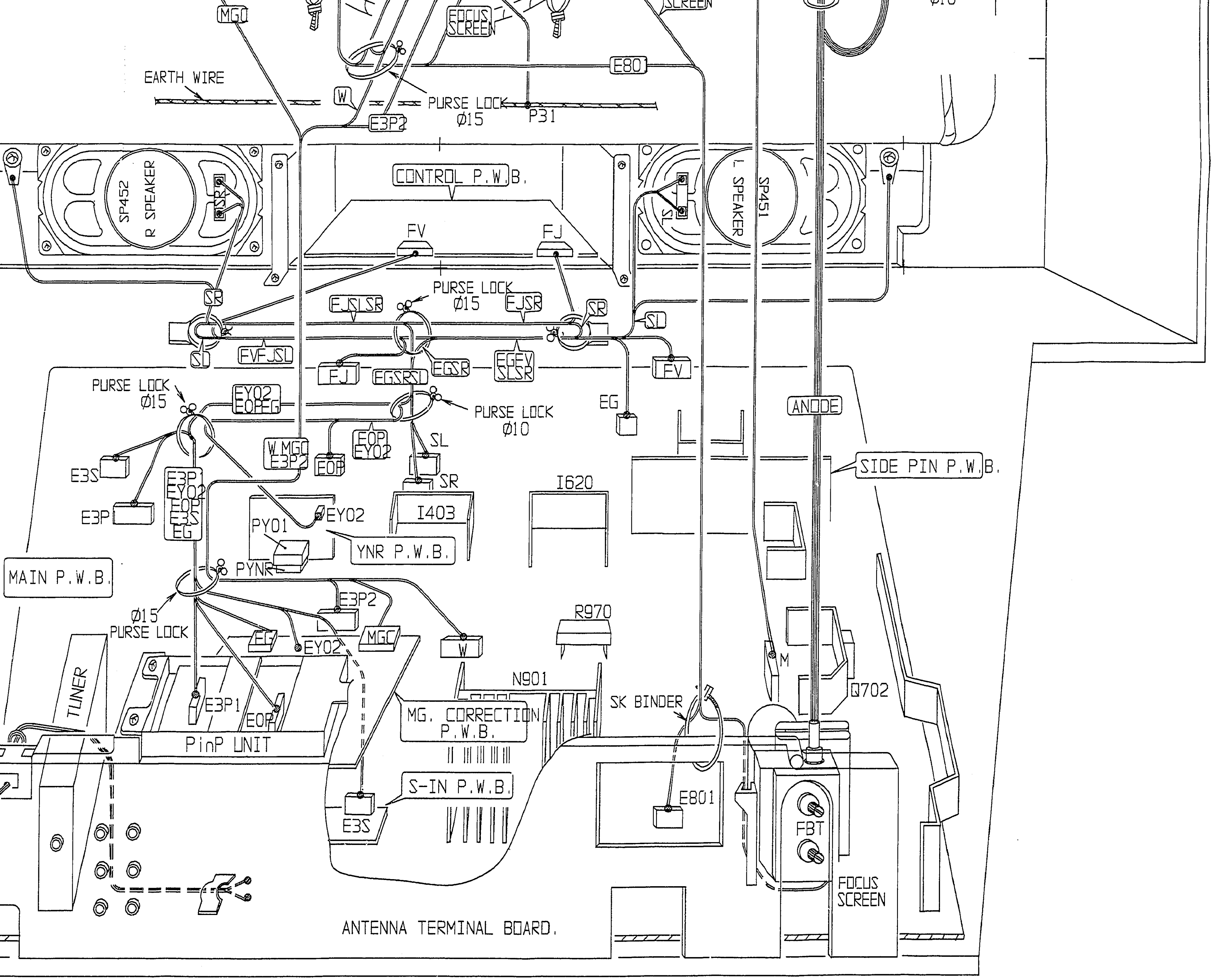
WIRING DRAWING OF 35TX10B/CZ41 FINAL ASSEMBLY


ANODE CAP
SILICONE COMPOUND
MAGNETIC FIELD
CORRECTION COIL
ANODE CLAMP
DEGAUSSING COIL
DY
E801
CPT P.W.B.
MGC
P31
SCREEN
FOCUS
PURSE LOCK
Ø20
UL 1007-22
SOLDER COATED WIRE.
E3P2
M
W
W
PURSE LOCK
Ø15
W
SERVICEMAN CAUTION LABEL (F)
FOCUS
SCREEN
E3P2
E801
E3P2
M
M W
M
W
M
FOCUS
SCREEN
FOCUS
SCREEN
PURSE LOC
Ø10
MGC
E80
EARTH WIRE
W
PURSE LOCK
Ø15
P31
E3P2

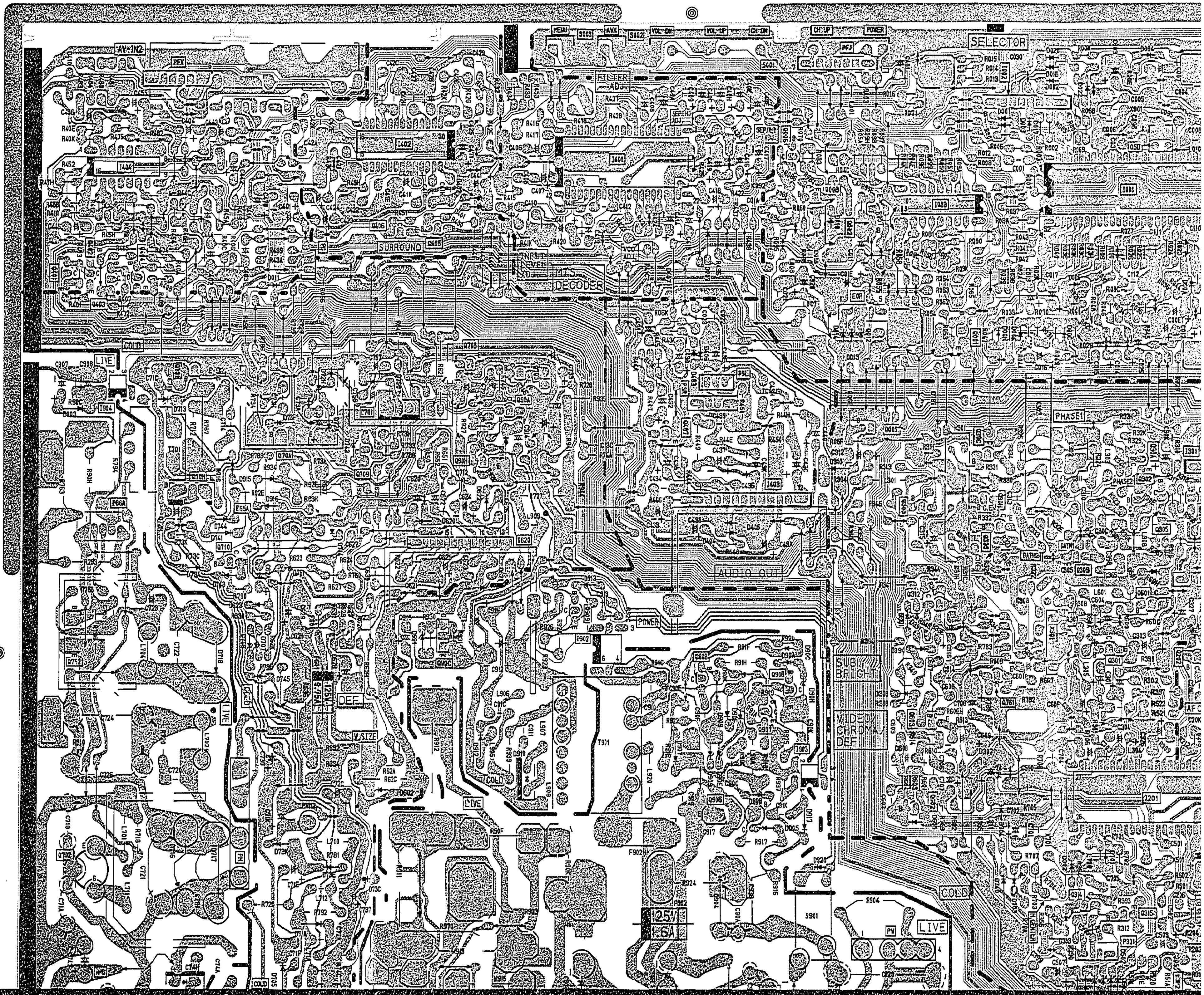
WIRING DRAWING OF 35TX10B/CZ41 FINAL ASSEMBLY


ANODE CAP
SILICONE COMPOUND
MAGNETIC FIELD CORRECTION COIL
ANODE CLAMP
EGAUSSING COIL
DY
E801
CPT P.W.B.
P31
MGC
SCREEN
FOCUS
PURSE LOCK Ø20
UL 1007-22 SOLDER COATED WIRE.
W
W
E3P2
M
PURSE LOCK Ø15
W
CEMAN????
ICEMAN CAUTION LABEL C(F)
FOCUS SCREEN
E3P2 E801
E3P2 M
MW
M W
M
FOCUS SCREEN
FOCUS SCREEN
PURSE LOCK Ø10
MGC
E801
EARTH WIRE
W
PURSE LOCK Ø15
P31
E3P2


MGC
FOCUS SCREEN
SCREEN
E80
EARTH WIRE
W
PURSE LOCK
Ø15
P31
E3P2
SP452
R SPEAKER
SR
CONTROL P.W.B.
L SPEAKER
SP451
SL
FV
FJ
PURSE LOCK
Ø15
FJSLSR
FJSR
SR
SL
SR
SL
FVFJSL
EGSR
EGEV SLSR
FJ
EGSRSL
FV
EG
PURSE LOCK
Ø15
EY02 EOPEG
PURSE LOCK
Ø10
ANODE
E3S
W.MGC E3P2
EOP EY02
SL
EOP
SR
SIDE PIN P.W
E3P1
E3P1 EY02 EOP E3S EG
PY01
EY02
I403
I620
YNR P.W.B.
PYNR
MAIN P.W.B.
Ø15
PURSE LOCK
E3P2
EG
EY02
MGC
W
R970
TUNER
N901
M
Q702
E3P1
EOP
SK BINDER
MG. CORRECTION P.W.B.
PinP UNIT
S-IN P.W.B.
E801
E3S
FBT
POWER CORD
FOCUS SCREEN
ANTENNA TERMINAL BOARD.
POWER CORD

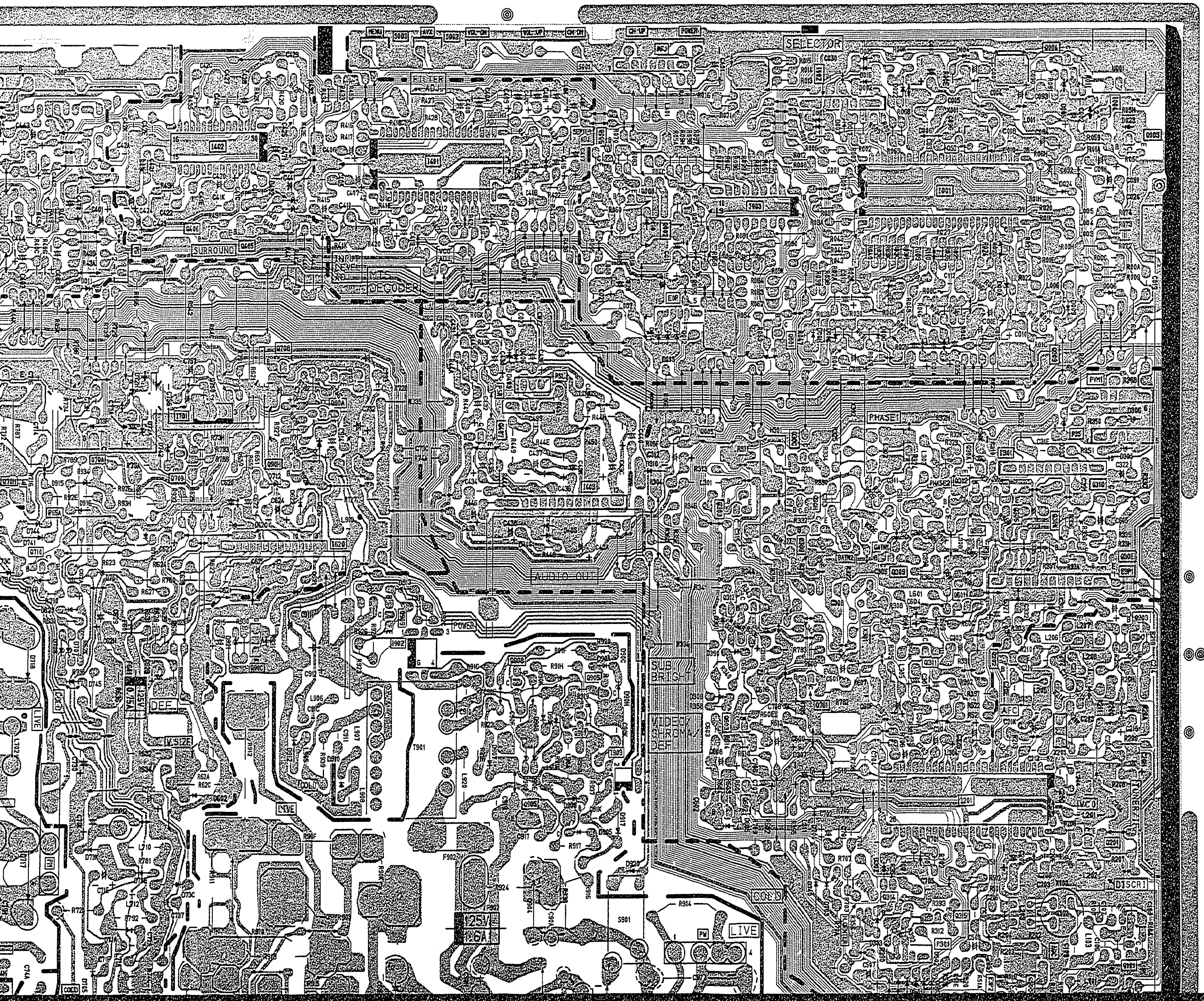

MGC
FOCUS
SCREEN
SCREEN
E801
EARTH WIRE
W
PURSE LOCK
Ø15
P31
E3P2
CONTROL P.W.B.
SP452
R SPEAKER
SR
FV
FJ
SL
SP451
L. SPEAKER
PURSE LOCK
Ø15
FJSLSR
FJSR
SR
SR
SL
SL
FVFJSL
FJ
EGSRSL
EGSR
EGEV
SLSR
FV
PURSE LOCK
Ø15
EY02
EOPEG
PURSE LOCK
Ø10
EG
ANODE
W.MGC
E3P2
EOP
EOP
EY02
SL
SR
E3S
E3P
E3P1
EY02
EOP
E3S
EG
PY01
EY02
I403
YNR P.W.B.
I620
SIDE PIN P.W.B.
MAIN P.W.B.
PYNR
Ø15
PURSE LOCK
E3P2
R970
EG
EY02
MGC
W
M
N901
TUNER
E3P1
EOP
SK BINDER
Q702
MG. CORRECTION
P.W.B.
PinP UNIT
S-IN P.W.B.
E801
E3S
FBT
FOCUS
SCREEN
ANTENNA TERMINAL BOARD.

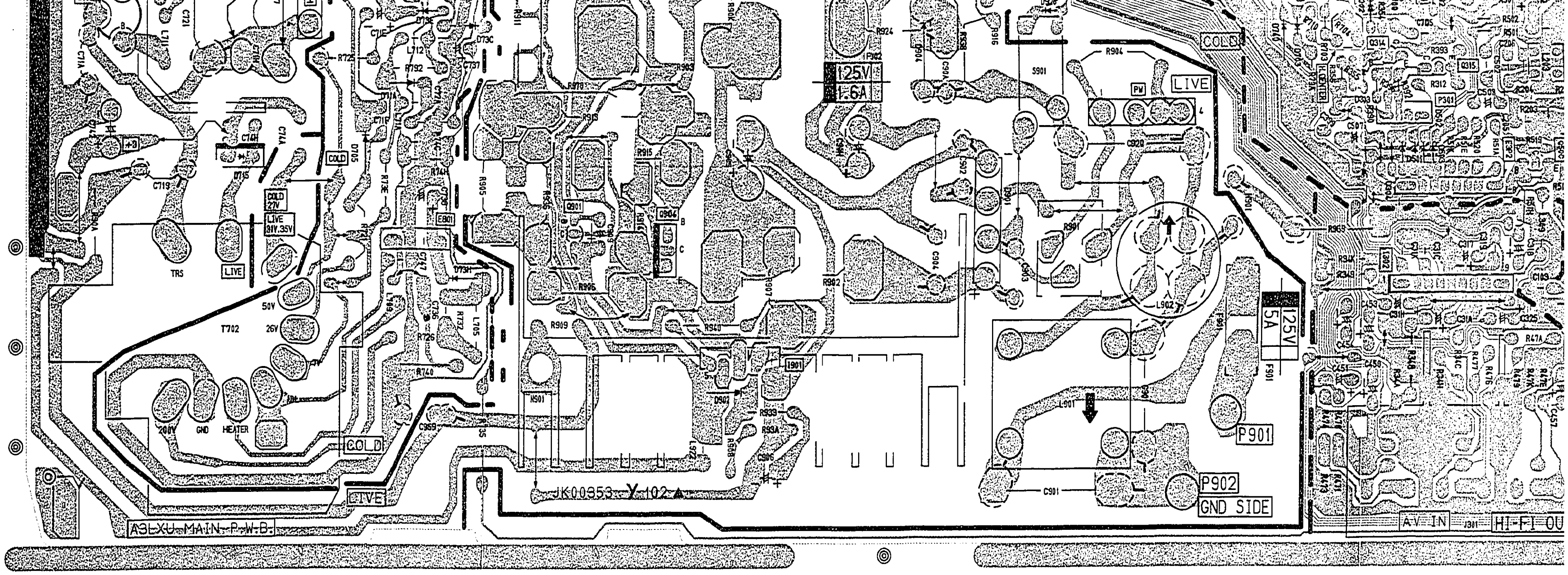
P.W.B. FOIL PATTERN



AV-IN2
MENU
S603
AVX
S602
VOL-DN
VOL-UP
CH-DN
CH-UP
POWER
SELECTOR
FILTER ADJ.
SURROUND
INPUT LEVEL ADJ.
DECODER
COLD
LIVE
PHASE
AUDIO OUT
POWER
DEF.
V.SIZE
SUB BRIGHT
VIDEO/CHROMA/DEF
T901
F902
S901
COLD
LIVE
125V 1.6A
AFC

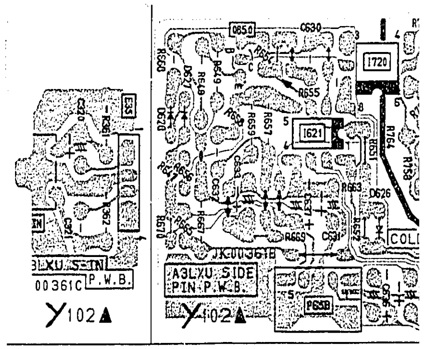
P.W.B. FOIL PATTERN

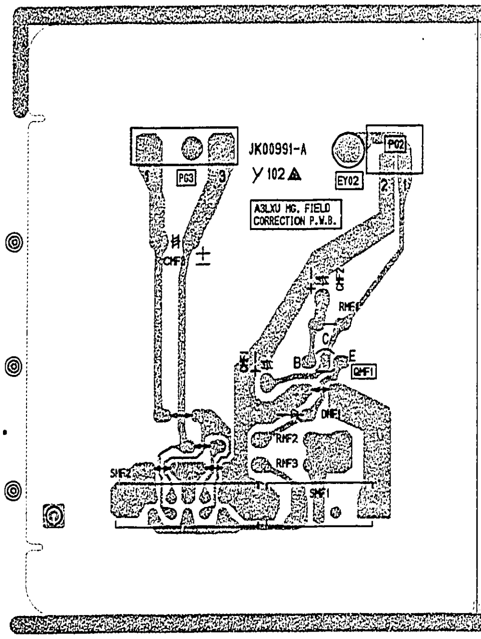

MENU
AVX
VOL-DN
VOL-UP
CH-DN
CH-UP
POWER
SELECTOR
FILTER ADJ
I402
I401
SURROUND
MTS DECODER
AUDIO OUT
PHASE1
PHASE2
POWER
SUB BRIGHT
VIDEO/CHROMA/DEF
DEF.
V.SIZE
LIVE
COLD
AFC
VCO
TUNER/AV
DISCRI
125V
F902
T901
S901
I201
I601


COLD
LIVE
125V
1.6A
125V
5A
P901
P902
GND SIDE
JK00853 Y102▲
A3LXU MAIN P.W.B.
AV IN
HI-FI OU
T702
50V
26V
200V
GND
HEATER

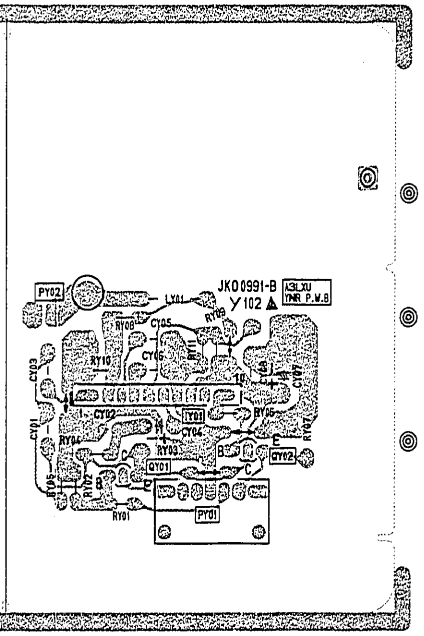
A3LXU MAIN P.W.B.

A3LXU S P.W.B.

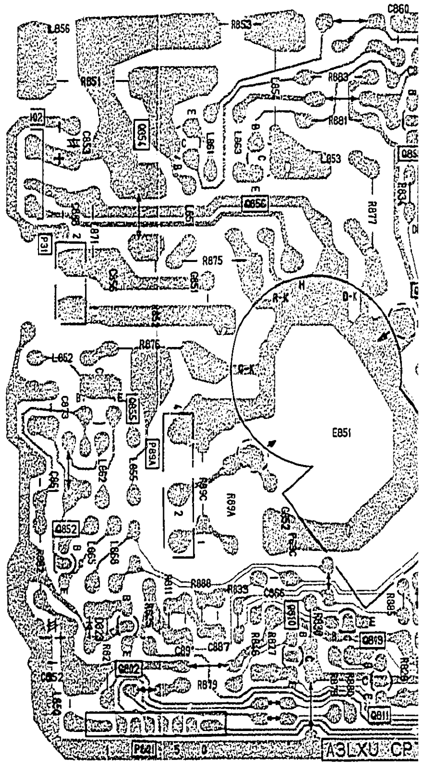

A3LXU S-IN P.W.B.
00361C
Y102▲
A3LXU SIDE PIN P.W.B.
JK00361B
Y102▲

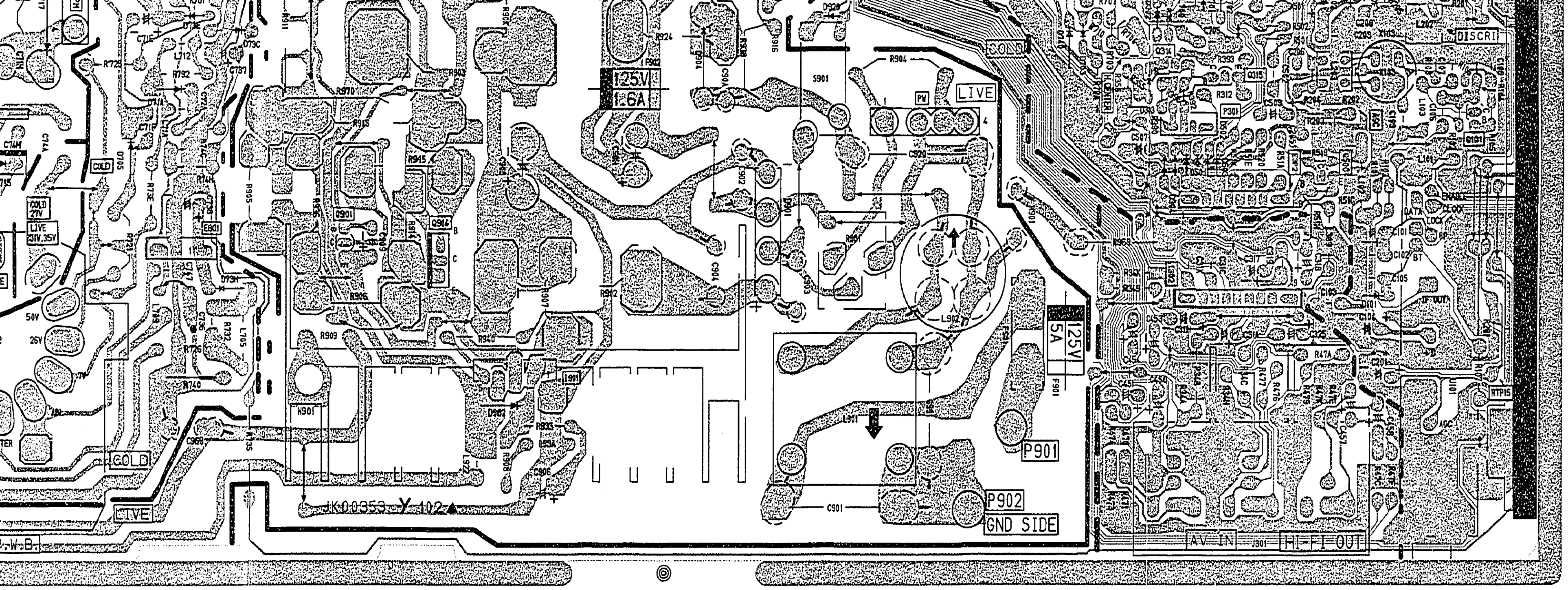

JK00991-A
Y102▲
A3LXU MG. FIELD CORRECTION P.W.B.
P63
P02
EY02

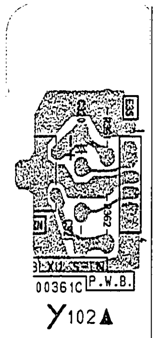
A3LXU MG. FIELD CORRECTION P.W.B. (35TX10B ONLY)


JK00991-B
Y102▲
A3LXU YNR P.W.B.
PY02
PY01
QY01
QY02

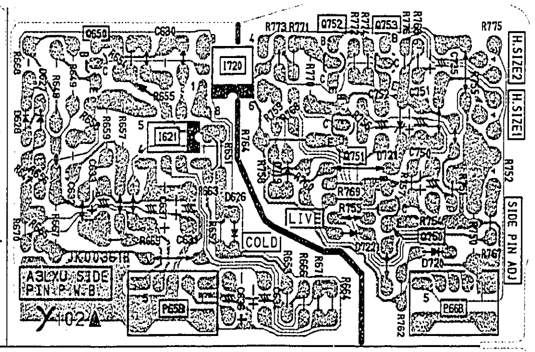
A3LXU YNR P.W.B. (35TX10B ONLY)


E851
A3LXU CR

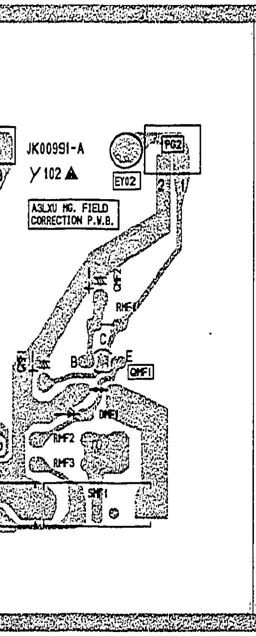

125V
1.6A
COLD
LIVE
125V
5A
P901
P902
GND SIDE
JK00353 Y102▲
GOLD
LIVE
AV IN
HI-FI OUT
DISCRI

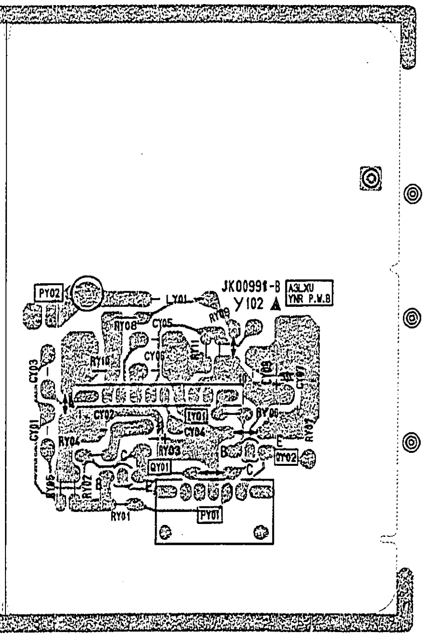

00361C P.W.B.
Y102▲

A3LXU S P.W.B.

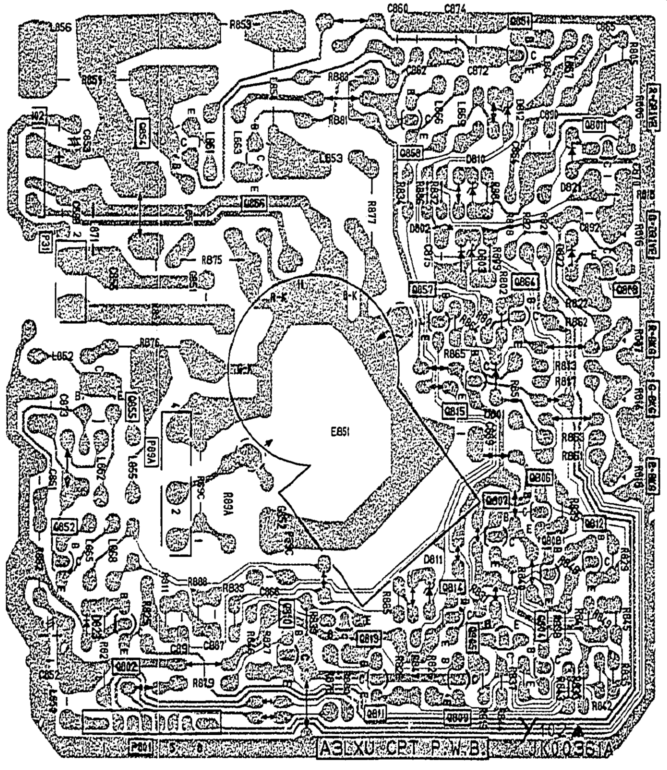

H.SIZE2
H.SIZE1
SIDE PIN ADJ
LIVE
COLD
JK00361B
A3LXU SIDE PIN P.W.B.
Y102▲

A3LXU SIDE PIN P.W.B.


JK00991-A
Y102▲
A3LXU MG. FIELD CORRECTION P.W.B.


JK00991-B
Y102▲
A3LXU YNR P.W.B.

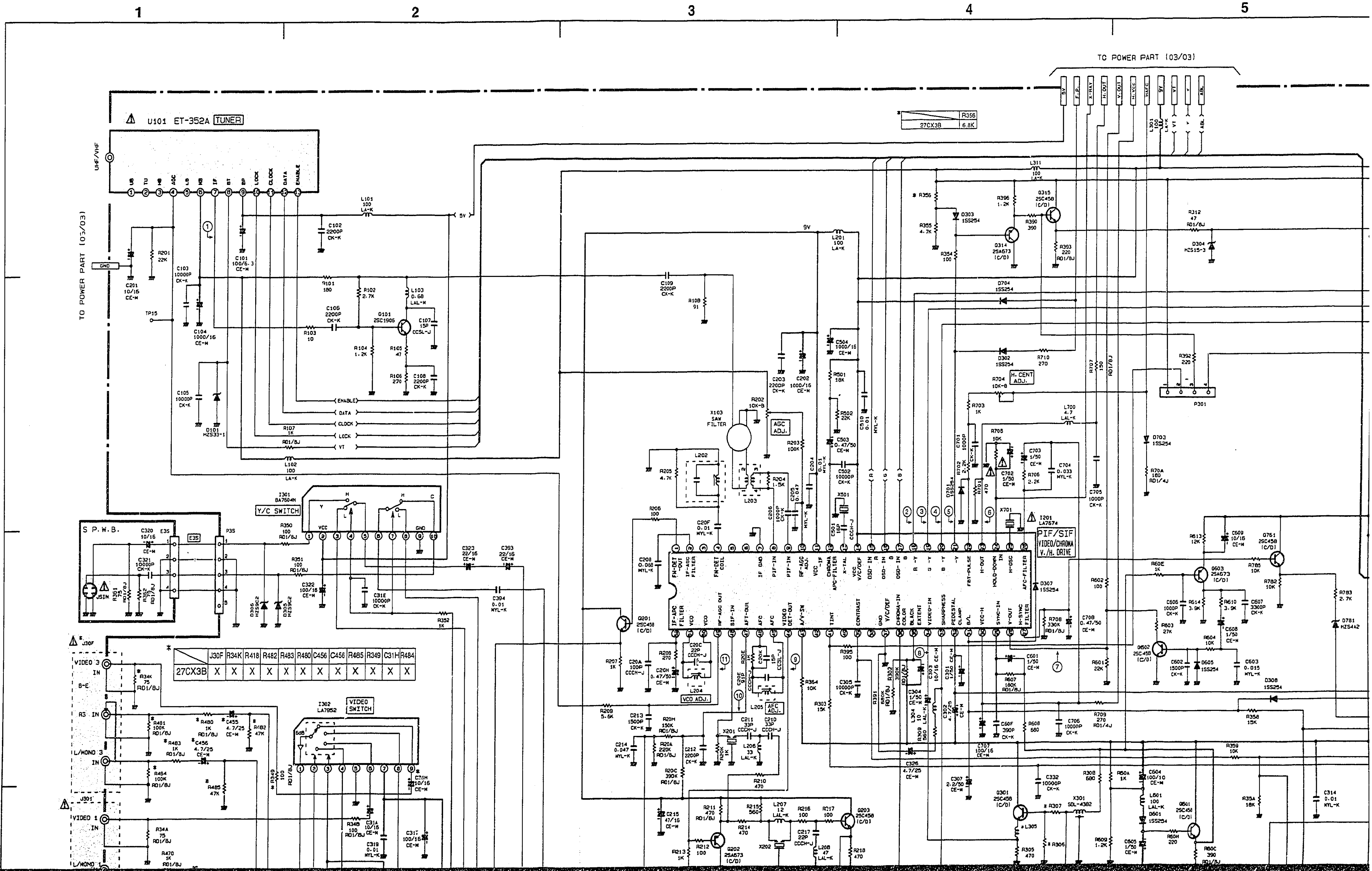
A3LXU YNR P.W.B.
(35TX10B ONLY)


E651
A3LXU CRT P.W.B.
JK00361A
Y102▲

A3LXU C.P.T. P.W.B.

CIRCUIT SCHEMATIC DIAGRAM OF 27CX3B/C743

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded
any of these components, read carefully the PRODUCT SAFETY NOTICE
through improper servicing.


1
2
3
4
5
A
B
C
TO POWER PART (03/03)
5V
F.P.
X-RAY
H.OUT
V.OUT
H.VCC
HAFC
9V
VT
Y
ABL
U101 ET-352A TUNER
UHF/VHF
UB
TU
MB
AGC
LB
HB
IF
BT
BP
LOCK
CLOCK
DATA
ENABLE
TO POWER PART (03/03)
GND
TP15
L101 100 LA-K
C102 2200P CK-K
C101 100/6.3 CE-M
C201 10/16 CE-M
R201 22K
C103 10000P CK-K
C104 1000/16 CE-M
R101 180
R102 2.7K
L103 0.68 LAL-M
C106 2200P CK-K
Q101 2SC1906
C107 15P CCSL-J
R103 10
R104 1.2K
R105 47
R106 270
C108 2200P CK-K
C105 10000P CK-K
D101 HZS33-1
ENABLE
DATA
CLOCK
LOCK
VT
R107 1K
RD1/8J
L102 100 LA-K
C109 2200P CK-K
R108 91
9V
L201 100 LA-K
L311 100 LA-K
R356
R355 4.7K
R354 100
D303 1SS254
Q314 2SA673 (C/D)
R396 1.2K
R390 390
Q315 2SC458 (C/D)
R393 220 RD1/8J
R312 47 RD1/8J
D304 HZS15-3
D704 1SS254
D302 1SS254
R710 270
R704 10K-B
H.CENT ADJ.
R703 1K
R392 220
P301
D703 1SS254
R70A 180 RD1/4J
R707 150
RD1/8J
C504 1000/16 CE-M
R501 18K
R502 22K
C503 0.47/50 CE-M
C502 10000P CK-K
X501
C501 15P CCCH-J
C510 0.01 MYL-K
C203 2200P CK-K
C202 1000/16 CE-M
R202 10K-B
AGC ADJ.
X103 SAW FILTER
R203 100K
C204 0.01 MYL-K
C205 0.047 MYL-K
C206 1000P CK-K
R204 1.5K
L202
L203
R205 4.7K
R206 100
C20F 0.01 MYL-K
C208 0.068 MYL-K
Q201 2SC458 (C/D)
R207 1K
C20A 100P CCCH-J
R208 270
C20H 0.47/50 CE-M
C20C 22P CCCH-J
L204
VCO ADJ.
C20E 91P
C20K 15P CCSL-J
L205
AFC ADJ.
R209 5.6K
C213 1500P CK-K
R20H 150K RD1/8J
C214 0.047 MYL-K
R20A 220K RD1/8J
C212 2200P CK-K
X201
C211 33P CCCH-J
C210 33P CCCH-J
R20K 1K
L206 33 LAL-K
R20C 390K RD1/8J
R210 470
C215 47/16 CE-M
R211 470 RD1/8J
R215 560
R214 470
Q202 2SA673 (C/D)
R212 100
R213 1K
L207 12 LAL-K
R216 100
R217 100
C217 22P CCCH-J
X202
L208 47 LAL-K
R218 470
Q203 2SC458 (C/D)
R395 100
C305 10000P CK-K
R364 10K
R303 15K
R391 680K RD1/8J
R302 390K
C303 10/16 CE-M
C304 1/50 CE-M
L304 10 LAL-K
R30B 560
C301 1/50 CE-M
C302 4.7/25 CE-M
C326 4.7/25 CE-M
C307 2.2/50 CE-M
C332 10000P CK-K
R308 560
Q301 2SC458 (C/D)
R307
X301 SDL-4382
L305
R305 470
R306
I201 LA7674
PIF/SIF VIDEO/CHROMA V./H. DRIVE
FM-DET OUT
IF-AGC FILTER
FM-DET COIL
IF GND
PIF-IN
PIF-IN
RF-AGC ADJ.
VCC-IF
CHROMA APC-FILTER
X-TAL
VCC V/C/DEF
OSD-IN R
OSD-IN G
OSD-IN B
R -Y
G -Y
B -Y
FBT-PULSE
H-OUT
HOLD-DOWN IN
H-OSC
AFC-FILTER
IF-APC FILTER
VCO
VCO
RF-AGC OUT
SIF-IN
AFT-OUT
AFC
VIDEO DET-OUT
A/V-SW
TINT
CONTRAST
GND V/C/DEF
CHROMA-IN
COLOR
BLACK EXTENT
VIDEO-IN
SHARPNESS
PEDESTAL CLAMP
B/L
VCC-H
SYNC-IN
V-OUT
H-SYNC FILTER
X701
C701 1000P CK-K
R705 10K
R702 2.2K
D701 1SS254
R701 470
C702 1/50 CE-M
C703 1/50 CE-M
R706 2.2K
C704 0.033 MYL-K
L700 4.7 LAL-K
C705 1000P CK-K
D307 1SS254
R708 330K RD1/8J
C708 0.47/50 CE-M
C601 1/50 CE-M
R607 180K RD1/8J
C60F 390P CK-K
R608 560
C706 10000P CK-K
R709 270 RD1/4J
C707 100/16 CE-M
R613 12K
C609 10/16 CE-M
Q761 2SC458 (C/D)
R785 10K
R782 10K
R783 2.7K
D781 HZS4A2
R60E 1K
Q603 2SA673 (C/D)
R602 100
C606 1000P CK-K
R614 3.9K
R610 3.9K
C607 3300P CK-K
R603 27K
R604 10K
C608 1/50 CE-M
Q602 2SC458 (C/D)
R601 22K
C602 1500P CK-K
D605 1SS254
C603 0.015 MYL-K
D308 1SS254
R358 15K
R359 10K
R60A 1K
C604 100/10 CE-M
L601 100 LAL-K
D601 1SS254
Q601 2SC458 (C/D)
R60H 220
R609 1.2K
C605 1/50 CE-M
R60C 390 RD1/8J
R35A 18K
C314 0.01 MYL-K
S P.W.B.
E3S
P3S
C320 10/16 CE-M
C321 10000P CK-K
JSIN
R351 75 RD1/8J
R352 75 RD1/8J
I301 BA7604N
Y/C SWITCH
R350 100 RD1/8J
R351 100 RD1/8J
VCC
GND
Y
C
H
L
C322 100/16 CE-M
C31E 10000P CK-K
D306 HZS9C2
D305 HZS9C2
C323 22/16 CE-M
C393 22/16 CE-M
C394 0.01 MYL-K
R352 1K
J30F
VIDEO 3 IN
R-E
R3 IN
L/MONO 3 IN
R34K 75 RD1/8J
R481 100K RD1/8J
R480 1K RD1/8J
C455 4.7/25 CE-M
R482 47K
R483 1K RD1/8J
C456 4.7/25 CE-M
R484 100K RD1/8J
R485 47K
I302 LA7952
VIDEO SWITCH
6dB
R349 100 RD1/8J
C31H 10/16 CE-M
R348 100 RD1/8J
C31A 10/16 CE-M
C319 0.01 MYL-K
C317 100/16 CE-M
J301
VIDEO 1 IN
L/MONO 1
R34A 75 RD1/8J
R470 1K RD1/8J

*

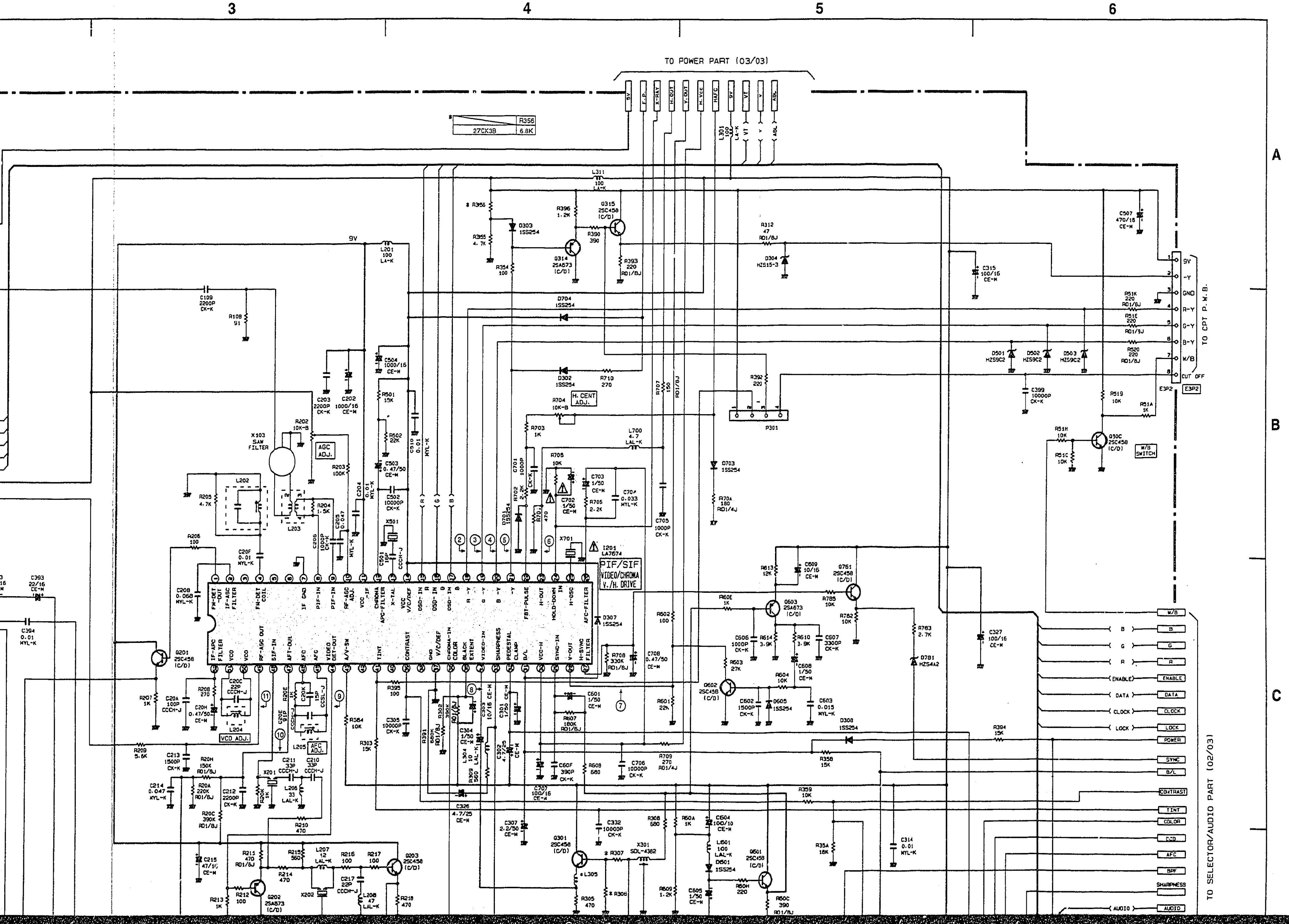
	R356
27CX3B	6.8K

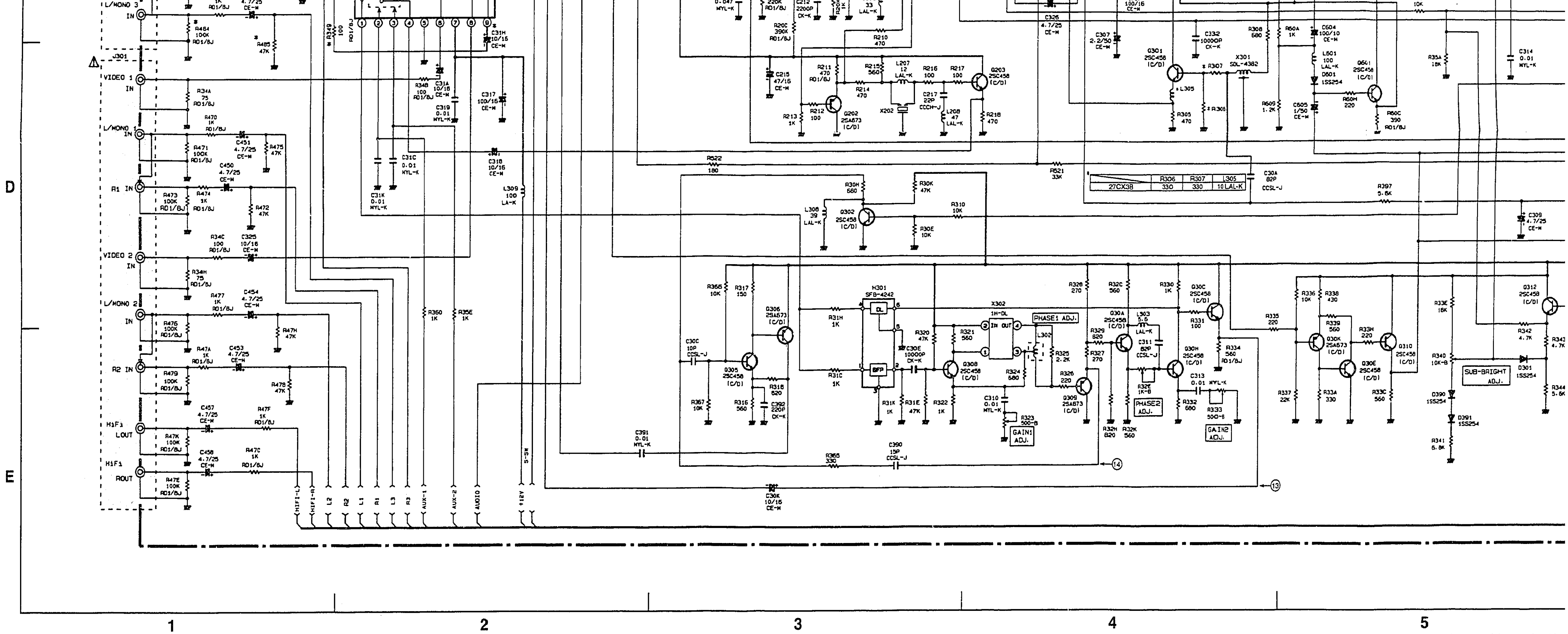
*

	J30F	R34K	R418	R482	R483	R480	C456	C456	R485	R349	C31H	R484
27CX3B	X	X	X	X	X	X	X	X	X	X	X	X

CIRCUIT SCHEMATIC DIAGRAM OF 27CX3B/C743

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.


3
4
5
6
A
B
C
TO POWER PART (03/03)
5V
F.P.
X-RAY
H.OUT
V.OUT
H.VCC
MA/C
9V
VT
V
ABL
R356
27CX3B
6.8K
L311 100 LA-K
L201 100 LA-K
9V
Q315 2SC458 (C/D)
Q314 2SA673 (C/D)
D303 1SS254
D304 HZS15-3
D704 1SS254
D302 1SS254
R312 47 RD1/8J
C315 100/16 CE-M
C507 470/16 CE-M
X103 SAW FILTER
AGC ADJ.
H.CENT ADJ.
L202
L203
X501
X701
IC201 LA7674
PIF/SIF VIDEO/CHROMA V./H. DRIVE
FM-DET OUT
VCC
RF-AGC FILTER
FM-DET COIL
IF GND
PIF-IN
RF-AGC ADJ.
VCO_IF
CHROMA APC-FILTER
X-TAL
VCC V/C/DEF
OSD-IN R
OSD-IN G
OSD-IN B
R-Y
G-Y
B-Y
-Y
FBT-PULSE
H-OUT
HOLD-DOWN IN
H-OSC
AFC-FILTER
IF-APC FILTER
VCO
RF-AGC OUT
SIF-IN
AFT-OUT
AFC
VIDEO DET-OUT
A/V-SW
TINT
CONTRAST
GND
CHROMA-IN COLOR
BLACK EXTENT
VIDEO-IN
SHARPNESS
PEDESTAL CLAMP
B/L
VCC-H
SYNC-IN
V-OUT
H-SYNC FILTER
Q201 2SC458 (C/D)
Q202 2SA673 (C/D)
Q203 2SC458 (C/D)
X201
X202
L204
VCO ADJ.
L205
AFC ADJ.
L206
L207
L208
Q301 2SC458 (C/D)
X301 SDL-4382
L305
Q501 2SC458 (C/D)
L501
D501 1SS254
Q602 2SC458 (C/D)
Q603 2SA673 (C/D)
Q761 2SC458 (C/D)
D605 1SS254
D308 1SS254
D781 HZS4A2
D307 1SS254
D703 1SS254
D701 1SS254
L700 4.7 LAL-K
P301
Q30C 2SC458 (C/D)
W/B SWITCH
D501 HZS9C2
D502 HZS9C2
D503 HZS9C2
C399 10000P CK-K
9V
-Y
GND
R-Y
G-Y
B-Y
W/B
CUT OFF
E3P2
TO CPT P.W.B.
W/B
B
G
R
ENABLE
DATA
CLOCK
LOCK
POWER
SYNC
B/L
CONTRAST
TINT
COLOR
CCD
AFC
BPF
SHARPNESS
AUDIO
TO SELECTOR/AUDIO PART (02/03)
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪



D
E
1
2
3
4
5
L/MONO 3 IN
J301
VIDEO 1 IN
L/MONO 1 IN
R1 IN
VIDEO 2 IN
L/MONO 2 IN
R2 IN
HiFi LOUT
HiFi ROUT
HIFI-L
HIFI-R
L2
R2
L1
R1
L3
R3
AUX-1
AUX-2
AUDIO
S-SW
12V
H301 SFB-4242
X302 1H-DL
DL
BFP
IN OUT
PHASE1 ADJ.
PHASE2 ADJ.
GAIN1 ADJ.
GAIN2 ADJ.
SUB-BRIGHT ADJ.
27CX38
R306 330
R307 330
L305 10 LAL-K
X301 SDL-4382
Q301 2SC458 (C/D)
Q302 2SC458 (C/D)
Q305 2SC458 (C/D)
Q306 2SA673 (C/D)
Q308 2SC458 (C/D)
Q309 2SA673 (C/D)
Q30A 2SC458 (C/D)
Q30C 2SC458 (C/D)
Q30H 2SC458 (C/D)
Q30K 2SA673 (C/D)
Q30E 2SC458 (C/D)
Q310 2SC458 (C/D)
Q312 2SC458 (C/D)
Q202 2SA673 (C/D)
Q203 2SC458 (C/D)
Q601 2SC458 (C/D)
D301 1SS254
D390 1SS254
D391 1SS254
D601 1SS254
14
13

- Since this is a basic circuit diagram, the value of the parts is subjec
- All DC voltage to be measured with a tester (100kΩ/V). Voltage take

Circuit No.	Pin No.	Voltage VDC
I201	1	4.4
	2	6.8
	3	5.6
	4	5.6
	5	4.3
	6	4.0
	7	0.0
	8	4.5
	9	4.5
	10	5.8
	11	8.8
	12	5.6
	13	5.4
	14	8.9
	15	0.0
	16	0.0
	17	0.0
	18	5.0
	19	5.0
	20	5.0
	21	4.0
	22	0.4
	23	0.4
	24	0.0
	25	5.0
	26	5.7
	27	7.6
	28	4.5
	29	7.0
	30	7.6

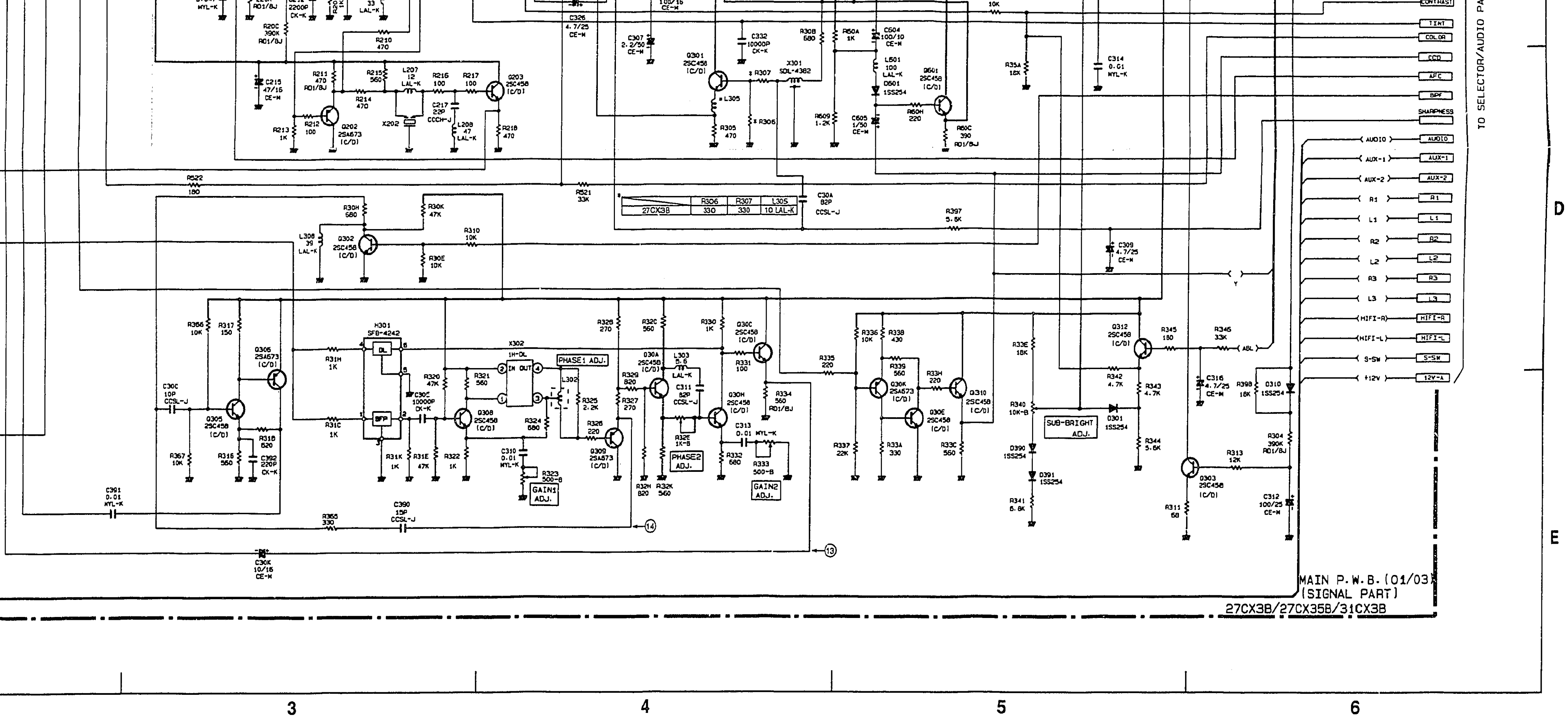
Circuit No.	Pin No.	Voltage VDC
I201	31	4.4
	32	2.7
	33	5.9
	34	4.3
	35	4.2
	36	4.8
	37	0.0
	38	3.5
	39	7.0
	40	4.8
	41	4.1
	42	4.8
	43	8.9
	44	3.2
	45	3.0
	46	3.0
	47	3.3
	48	3.7
	49	1.9
	50	7.9
	51	7.9
	52	4.8

Circuit No.	Pin No.	Voltage VDC
I301	1	2.3
	2	5.0
	3	2.5
	4	0.4
	5	1.7
	6	1.7
	7	0.4
	8	2.5
	9	0.0
	10	2.5

Circuit No.	Pin No.	Voltage VDC
I302	1	6.7
	2	9.4
	3	9.4
	4	3.5
	5	0.0
	6	3.1
	7	11.6
	8	3.1
	9	3.1

Circuit No.	Pin No.	Voltage VDC
Q001	B	0.7
	C	0.0
	E	0.0
Q002	B	0.0
	C	5.0
	E	0.0
Q003	B	0.0
	C	4.2
	E	0.0
Q004	B	5.0
	C	5.0
	E	5.0
Q005	B	0.7
	C	0.0
	E	0.0
Q006	B	0.5
	C	2.0
	E	0.0
Q008	B	0.5
	C	2.8
	E	0.0
Q009	B	0.0
	C	5.0
	E	0.0
Q101	B	2.3
	C	7.5
	E	1.6
Q201	B	4.4
	C	9.0
	E	3.7

Circuit No.	Pin No.	Voltage VDC
Q202	B	3.2
	C	0.0
	E	3.9
Q203	B	6.0
	C	9.0
	E	5.5
Q30A	B	3.0
	C	7.0
	E	2.0
Q30C	B	6.6
	C	9.0
	E	6.0
Q30E	B	0.7
	C	5.0
	E	0.0
Q30H	B	2.3
	C	6.6
	E	1.6
Q30K	B	6.0
	C	0.7
	E	7.0
Q301	B	1.5
	C	9.0
	E	0.5
Q302	B	0.5
	C	0.0
	E	0.0
Q303	B	0.0
	C	2.7
	E	0.0


TO SELECTOR/AUDIO PA
CONTRAST
TINT
COLOR
CCD
AFC
BPF
SHARPNESS
AUDIO
AUX-1
AUX-2
R1
L1
R2
L2
R3
L3
HIFI-R
HIFI-L
S-SW
+12V
12V-A
ABL
PHASE1 ADJ.
PHASE2 ADJ.
GAIN1 ADJ.
GAIN2 ADJ.
SUB-BRIGHT ADJ.
H301 SFB-4242
X302 1H-DL
X301 SDL-4382
Q301 2SC458 (C/D)
Q302 2SC458 (C/D)
Q303 2SC458 (C/D)
Q305 2SC458 (C/D)
Q306 2SA673 (C/D)
Q308 2SC458 (C/D)
Q309 2SA673 (C/D)
Q30A 2SC458 (C/D)
Q30C 2SC458 (C/D)
Q30H 2SC458 (C/D)
Q30K 2SA673 (C/D)
Q30E 2SC458 (C/D)
Q310 2SC458 (C/D)
Q312 2SC458 (C/D)
Q601 2SC458 (C/D)
Q202 2SA673 (C/D)
Q203 2SC458 (C/D)
27CX3B
R306 330
R307 330
L305 10 LAL-K
⑬
⑭
D
E
MAIN P.W.B.(01/03)
(SIGNAL PART)
27CX3B/27CX35B/31CX3B
3
4
5
6

- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.

Circuit No.	Pin No.	Voltage VDC
I201	1	4.4
	2	6.8
	3	5.6
	4	5.6
	5	4.3
	6	4.0
	7	0.0
	8	4.5
	9	4.5
	10	5.8
	11	8.8
	12	5.6
	13	5.4
	14	8.9
	15	0.0
	16	0.0
	17	0.0
	18	5.0
	19	5.0
	20	5.0
	21	4.0
	22	0.4
	23	0.4
	24	0.0
	25	5.0
	26	5.7
	27	7.6
	28	4.5
	29	7.0
	30	7.6

Circuit No.	Pin No.	Voltage VDC
I201	31	4.4
	32	2.7
	33	5.9
	34	4.3
	35	4.2
	36	4.8
	37	0.0
	38	3.5
	39	7.0
	40	4.8
	41	4.1
	42	4.8
	43	8.9
	44	3.2
	45	3.0
	46	3.0
	47	3.3
	48	3.7
	49	1.9
	50	7.9
	51	7.9
	52	4.8

Circuit No.	Pin No.	Voltage VDC
I301	1	2.3
	2	5.0
	3	2.5
	4	0.4
	5	1.7
	6	1.7
	7	0.4
	8	2.5
	9	0.0
	10	2.5

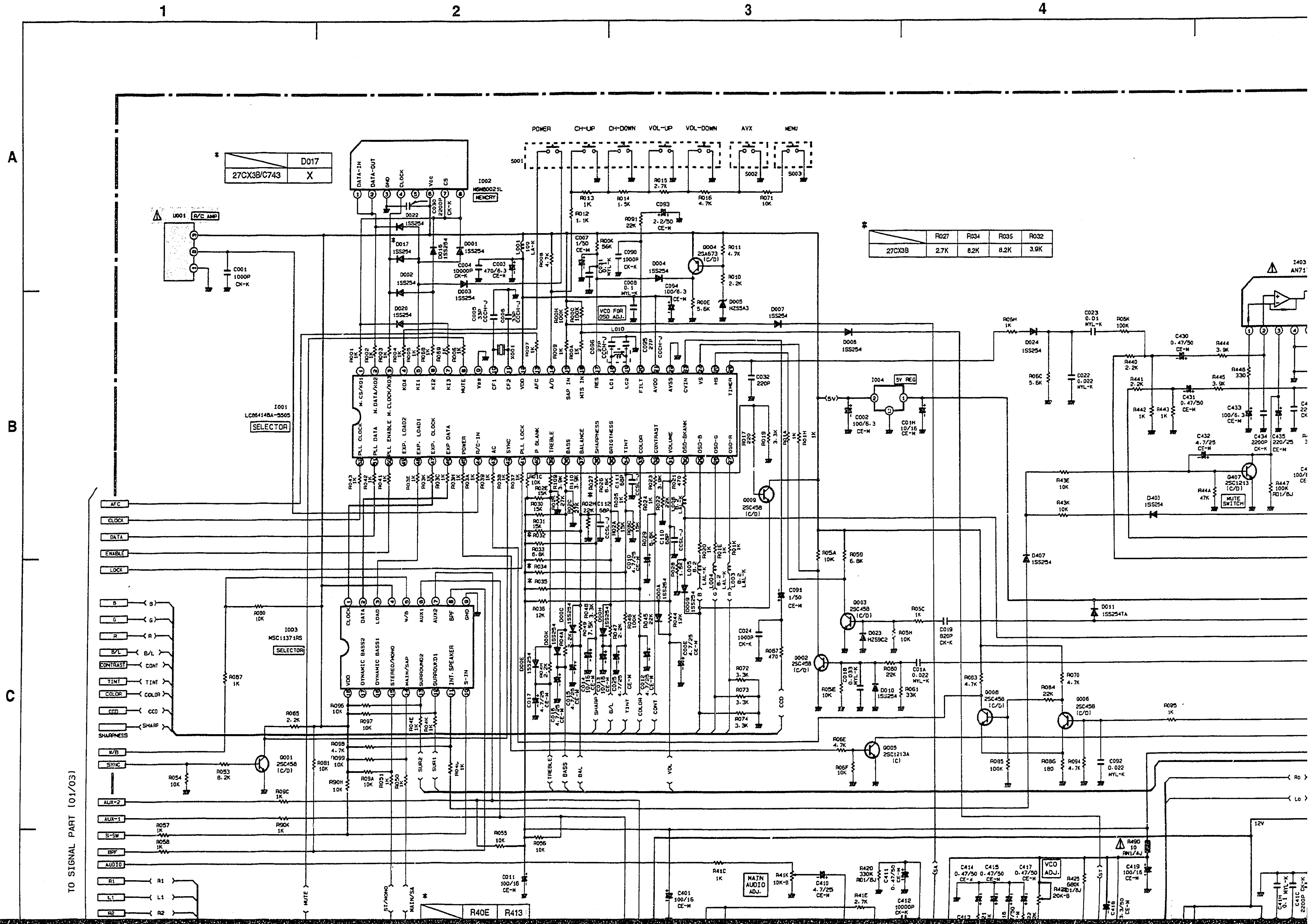
Circuit No.	Pin No.	Voltage VDC
I302	1	6.7
	2	9.4
	3	9.4
	4	3.5
	5	0.0
	6	3.1
	7	11.6
	8	3.1
	9	3.1

Circuit No.	Pin No.	Voltage VDC
Q001	B	0.7
	C	0.0
	E	0.0
Q002	B	0.0
	C	5.0
	E	0.0
Q003	B	0.0
	C	4.2
	E	0.0
Q004	B	5.0
	C	5.0
	E	5.0
Q005	B	0.7
	C	0.0
	E	0.0
Q006	B	0.5
	C	2.0
	E	0.0
Q008	B	0.5
	C	2.8
	E	0.0
Q009	B	0.0
	C	5.0
	E	0.0
Q101	B	2.3
	C	7.5
	E	1.6
Q201	B	4.4
	C	9.0
	E	3.7

Circuit No.	Pin No.	Voltage VDC
Q202	B	3.2
	C	0.0
	E	3.9
Q203	B	6.0
	C	9.0
	E	5.5
Q30A	B	3.0
	C	7.0
	E	2.0
Q30C	B	6.6
	C	9.0
	E	6.0
Q30E	B	0.7
	C	5.0
	E	0.0
Q30H	B	2.3
	C	6.6
	E	1.6
Q30K	B	6.0
	C	0.7
	E	7.0
Q301	B	1.5
	C	9.0
	E	0.5
Q302	B	0.5
	C	0.0
	E	0.0
Q303	B	0.0
	C	2.7
	E	0.0

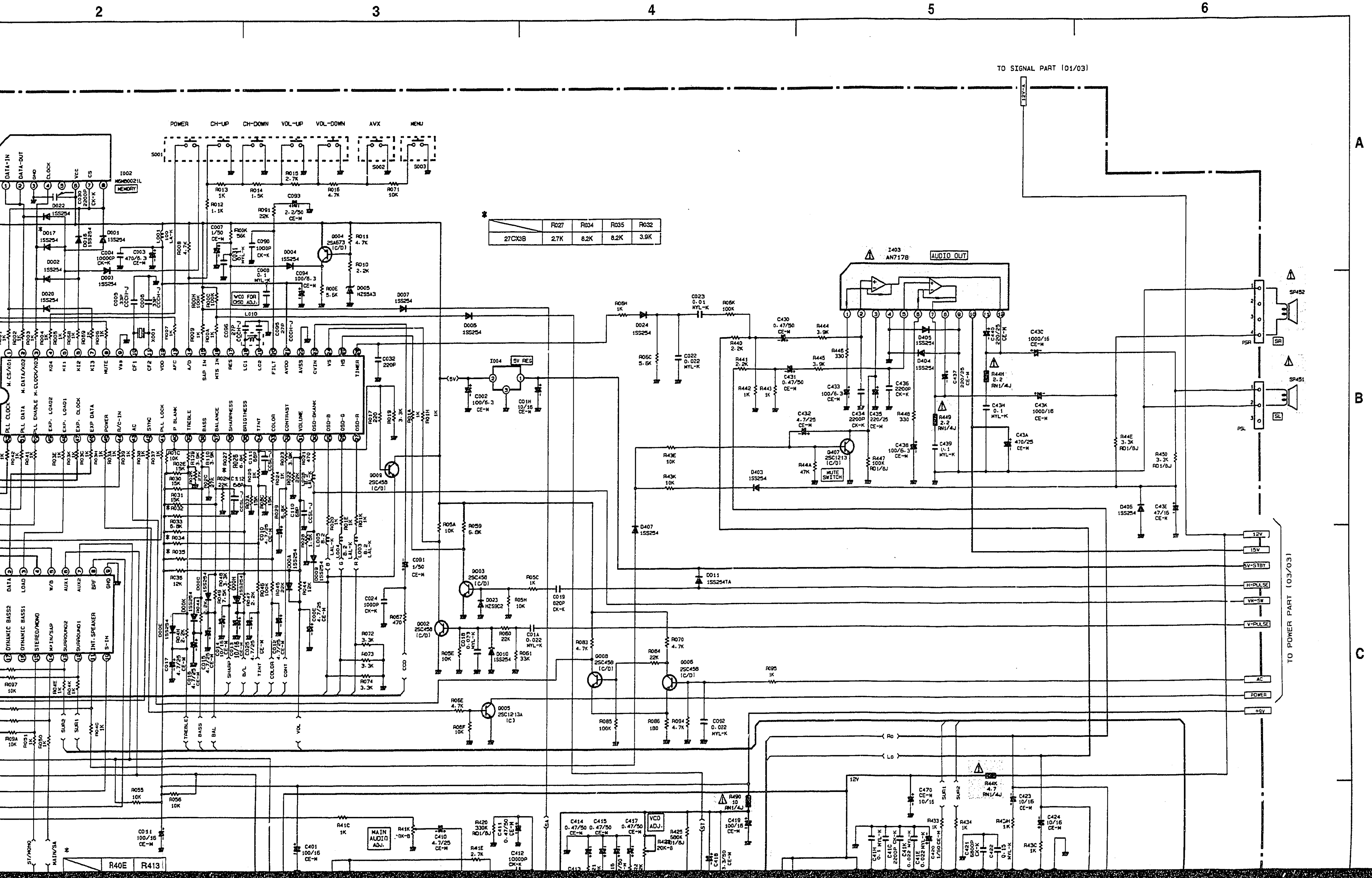
CIRCUIT SCHEMATIC DIAGRAM OF 27CX3B/C743

PRODUCT SAFETY NOTE:
any of these components, re
through improper servicing.


1
2
3
4
A
B
C
*
D017
27CX3B/C743
X
R027
R034
R035
R032
27CX3B
2.7K
8.2K
8.2K
3.9K
U001 R/C AMP
C001 1000P CK-K
I002 M6M80021L MEMORY
DATA-IN
DATA-OUT
GND
CLOCK
Vcc
CS
POWER
CH-UP
CH-DOWN
VOL-UP
VOL-DOWN
AVX
MENU
S001
S002
S003
R013 1K
R014 1.5K
R015 2.7K
R016 4.7K
R071 10K
R012 1.1K
C093 2.2/50 CE-M
R091 22K
Q004 2SA673 (C/D)
R011 4.7K
R010 2.2K
D005 HZS5A3
D004 1SS254
D007 1SS254
D006 1SS254
VCO FOR OSD ADJ.
L010
X001
I001 LC864148A-5505 SELECTOR
H.CS/KO1
H.DATA/KO2
H.CLOCK/KO3
KO4
KI1
KI2
KI3
MUTE
Vss
CF1
CF2
VDD
AFC
A/D
SAP IN
MTS IN
RES
LC1
LC2
FILT
AVDD
AVSS
CVIN
VS
HS
TIMER
PLL CLOCK
PLL DATA
PLL ENABLE
EXP. LOAD2
EXP. LOAD1
EXP. CLOCK
EXP DATA
POWER
R/C-IN
AC
SYNC
PLL LOCK
P BLANK
TREBLE
BASS
BALANCE
SHARPNESS
BRIGHTNESS
TINT
COLOR
CONTRAST
VOLUME
OSD-BKANK
OSD-B
OSD-G
OSD-R
C032 220P
I004 5V REG
(5V)
C002 100/6.3 CE-M
C01H 10/16 CE-M
Q009 2SC458 (C/D)
I003 MSC11371RS SELECTOR
CLOCK
DATA
LOAD
W/B
AUX1
AUX2
BPF
GND
VDD
DYNAMIC BASS2
DYNAMIC BASS1
STEREO/MONO
MAIN/SAP
SURROUND2
SURROUND1
INT.SPEAKER
S-IN
Q001 2SC458 (C/D)
Q003 2SC458 (C/D)
Q002 2SC458 (C/D)
Q008 2SC458 (C/D)
Q006 2SC458 (C/D)
Q005 2SC1213A (C)
D023 HZS9C2
D010 1SS254
D011 1SS254TA
D407 1SS254
D403 1SS254
D024 1SS254
C023 0.01 MYL-K
C022 0.022 MYL-K
C092 0.022 MYL-K
I403 AN7
Q407 2SC1213 (C/D)
MUTE SWITCH
R447 100K R01/8J
C430 0.47/50 CE-M
C431 0.47/50 CE-M
C433 100/6.3 CE-M
C434 2200P CK-K
C435 220/25 CE-M
C432 4.7/25 CE-M
AFC
CLOCK
DATA
ENABLE
LOCK
B
G
R
B/L
CONTRAST
TINT
COLOR
CCD
SHARPNESS
W/B
SYNC
AUX-2
AUX-1
S-SW
BPF
AUDIO
R1
L1
R2
CONT
SHARP
MUTE
ST/MONO
MAIN/SA
R40E
R413
TREBLE
BASS
BAL
VOL
CCD
Ro
Lo
12V
R490 10 RM1/4J
C419 100/16 CE-M
MAIN AUDIO ADJ.
VCO ADJ.
C401 100/16 CE-M
C410 4.7/25 CE-M
C412 10000P CK-K
C011 100/16 CE-M
TO SIGNAL PART (01/03)

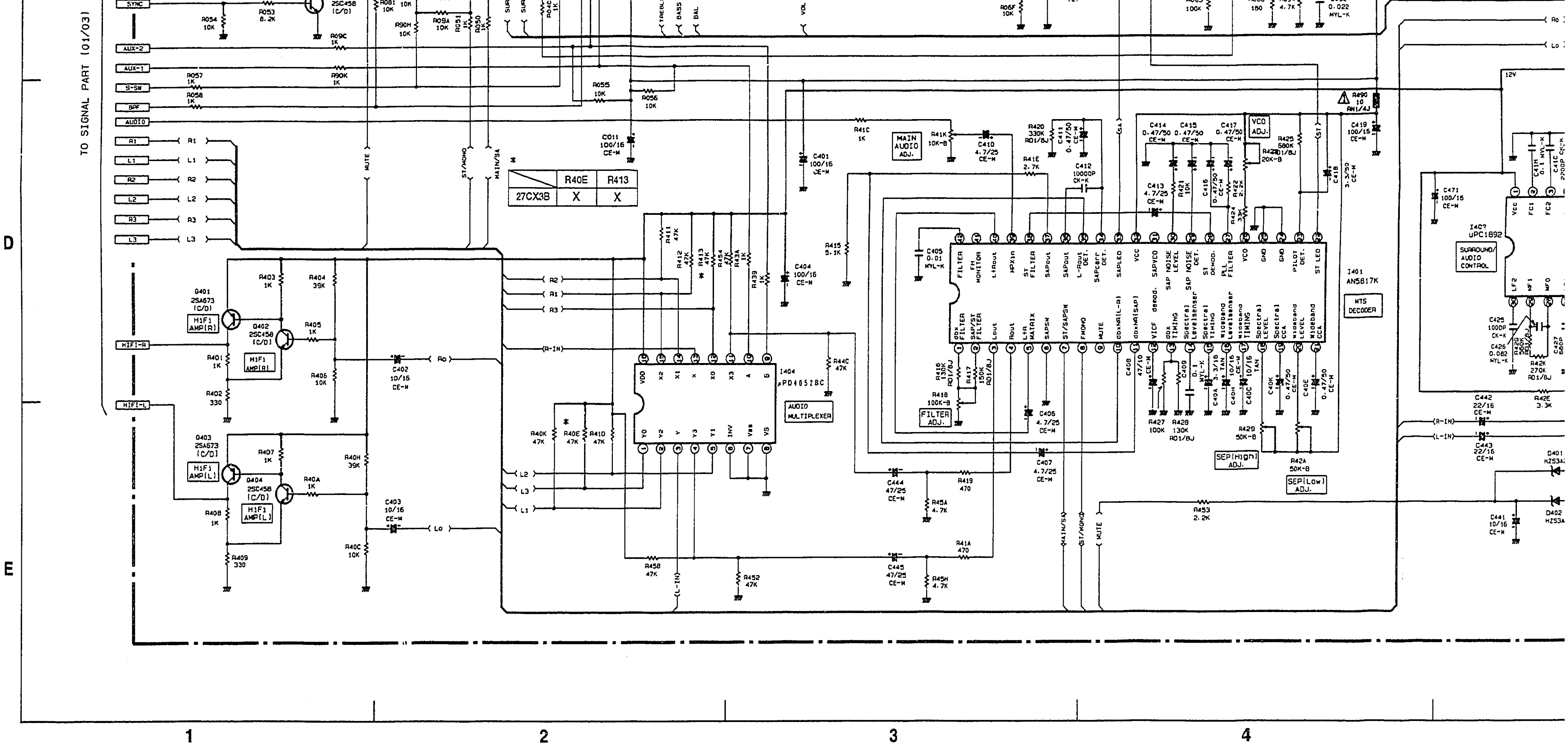
CIRCUIT SCHEMATIC DIAGRAM OF 27CX3B/C743

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.


2
3
4
5
6
A
B
C
TO SIGNAL PART (01/03)
12V-A
POWER
CH-UP
CH-DOWN
VOL-UP
VOL-DOWN
AVX
MENU
S001
S002
S003
I002
MSM6002IL
MEMORY
DATA-IN
DATA-OUT
GND
CLOCK
VCC
CS
I403
AN7178
AUDIO OUT
I004
5V REG
VCO FOR OSD ADJ.
MUTE SWITCH
MAIN AUDIO ADJ.
VCO ADJ.
SP452
SP451
PSR
PSL
SR
SL
12V
15V
5V-STBY
H-PULSE
VM-SW
V-PULSE
AC
POWER
+9V
TO POWER PART (03/03)
Ro
Lo
Q004 2SA673 (C/D)
Q009 2SC458 (C/D)
Q003 2SC458 (C/D)
Q002 2SC458 (C/D)
Q008 2SC458 (C/D)
Q006 2SC458 (C/D)
Q005 2SC1213A (C)
Q407 2SC1213 (C/D)
D011 1SS254TA
D005 HZS5A3
D023 HZS9C2
X001
L010
TREBLE
BASS
BAL
VOL
SHARP
B/L
TINT
COLOR
CONT
DYNAMIC BASS2
DYNAMIC BASS1
STEREO/MONO
MAIN/SAP
SURROUND2
SURROUND1
INT.SPEAKER
S-IN
ST/MONO
MAIN/SA

	R027	R034	R035	R032
27CX3B	2.7K	8.2K	8.2K	3.9K

*	R40E	R413


TO SIGNAL PART (01/03)
SYNC
AUX-2
AUX-1
S-SW
BPF
AUDIO
R1
L1
R2
L2
R3
L3
HIFI-R
HIFI-L
Q401 2SA673 (C/D) HiFi AMP(R)
Q402 2SC458 (C/D) HiFi AMP(R)
Q403 2SA673 (C/D) HiFi AMP(L)
Q404 2SC458 (C/D) HiFi AMP(L)
MUTE
ST/MONO
MAIN/SA
*
27CX3B
R40E
R413
X
X
I404 μPD4052BC
AUDIO MULTIPLEXER
MAIN AUDIO ADJ.
FILTER ADJ.
I401 AN5817K
MTS DECODER
VCO ADJ.
SEP(High) ADJ.
SEP(Low) ADJ.
I402 μPC1892
SURROUND/ AUDIO CONTROL
D
E
1
2
3
4

- Since this is a basic ci
- All DC voltage to be m

Circuit No.	Pin No.	Voltage VDC
I001	1	5.0
	2	5.0
	3	5.0
	4	5.0
	5	12mv
	6	12mv
	7	12mv
	8	-3mv
	9	0.0
	10	2.5
	11	2.5
	12	5.0
	13	2.2
	14	5.0
	15	0.5
	16	0.5
	17	5.0
	18	2.3
	19	2.3
	20	2.5
	21	5.0
	22	0.0
	23	3.0
	24	5.0
	25	4.2
	26	0.0
	27	0.0

Circuit No.	Pin No.	Voltage VDC
I001	28	0.0
	29	0.0
	30	0.0
	31	42mv
	32	7.0
	33	4.4
	34	3.0
	35	2.3
	36	4.1
	37	1.5
	38	1.8
	39	1.8
	40	47mv
	41	120mv
	42	85mv
	43	2.3
	44	5.0
	45	5.0
	46	5.0
	47	0.3
	48	2.5mv
	49	5mv
	50	180mv
	51	5.0
	52	5.0

Circuit No.	Pin No.	Voltage VDC
I002	1	5.0
	2	5.0
	3	0.0
	4	5.0
	5	5.0
	6	5.0
	7	5.0
	8	5.0

Circuit No.	Pin No.	Voltage VDC
I003	1	0.3
	2	5.0
	3	2.4mv
	4	5.0
	5	1.5mv
	6	9.5
	7	9.5
	8	0.0
	9	0.0
	10	1.2mv
	11	3.5mv
	12	0.0
	13	0.0
	14	5.0
	15	3.5
	16	—
	17	—
	18	5.0

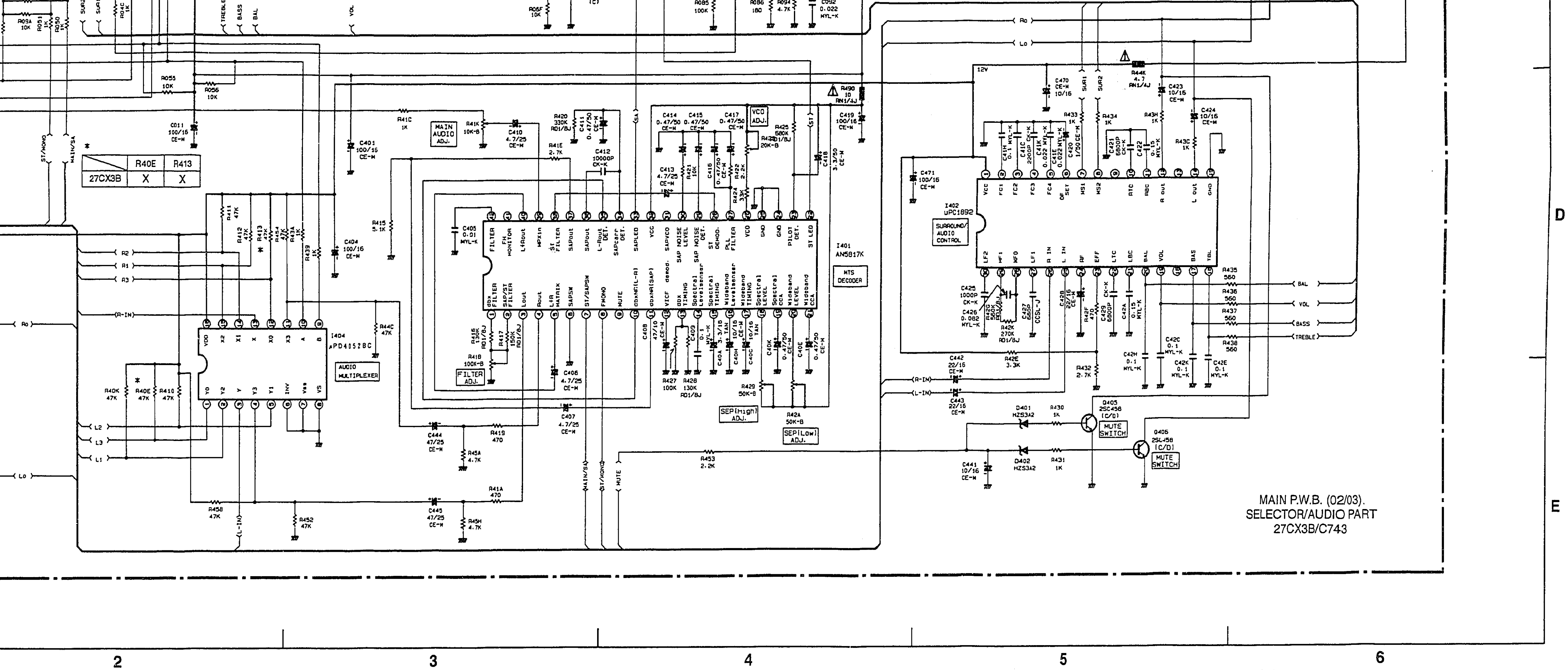
Circuit No.	Pin No.	Voltage VDC
I004	1	15.0
	2	5.0
	3	0.0

Circuit No.	Pin No.	Voltage VDC
I403	1	5.3
	2	9.9
	3	15.0
	4	0.0
	5	10.5
	6	5.8
	7	1.3
	8	0.0
	9	0.0
	10	12.0
	11	0.0
	12	1.3

Circuit No.	Pin No.	Voltage VDC
I401	1	1.2
	2	1.2
	3	5.0
	4	5.0
	5	5.0
	6	0.0
	7	5.0
	8	3.5
	9	—
	10	4.5
	11	5.0
	12	5.0
	13	1.2
	14	5.0
	15	0.3
	16	5.0
	17	0.6
	18	8.0
	19	5.0
	20	8.0
	21	5.0
	22	0.0
	23	7.0
	24	0.0
	25	0.0
	26	8.3
	27	5.0
	28	5.0

Circuit No.	Pin No.	Voltage VDC
I401	29	3.0
	30	3.0
	31	—
	32	9.5
	33	0.0
	34	3.8
	35	4.5
	36	0.5
	37	3.8
	38	4.2
	39	5.0
	40	4.0
	41	—
	42	5.0

Circuit No.	Pin No.	Voltage VDC
I402	1	12.0
	2	6.0
	3	6.0
	4	6.0
	5	6.0
	6	6.0
	7	0.0
	8	0.0
	9	6.0
	10	6.0
	11	6.0
	12	6.0
	13	—
	14	6.0
	15	0.0
	16	3.0
	17	3.0
	18	—
	19	0.0
	20	2.2
	21	6.0
	22	6.0
	23	5.2
	24	6.0
	25	6.0
	26	6.0
	27	6.0
	28	6.0


I401
AN5817K
MTS DECODER
I402
uPC1892
SURROUND/ AUDIO CONTROL
I404
μPD4052BC
AUDIO MULTIPLEXER
MAIN AUDIO ADJ.
VCO ADJ.
FILTER ADJ.
SEP(High) ADJ.
SEP(Low) ADJ.
MUTE SWITCH
Q405 2SC458 (C/D)
Q406 2SC458 (C/D)
D401 HZS3A2
D402 HZS3A2
R40E
R413
27CX3B
X
X
ST/MONO
MAIN/SA
MUTE
BAL
VOL
BASS
TREBLE
R-IN
L-IN
12V
2
3
4
5
6
D
E

MAIN P.W.B. (02/03).
SELECTOR/AUDIO PART
27CX3B/C743

- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.

Circuit No.	Pin No.	Voltage VDC
I001	28	0.0
	29	0.0
	30	0.0
	31	42mv
	32	7.0
	33	4.4
	34	3.0
	35	2.3
	36	4.1
	37	1.5
	38	1.8
	39	1.8
	40	47mv
	41	120mv
	42	85mv
	43	2.3
	44	5.0
	45	5.0
	46	5.0
	47	0.3
	48	2.5mv
	49	5mv
	50	180mv
	51	5.0
	52	5.0

Circuit No.	Pin No.	Voltage VDC
I002	1	5.0
	2	5.0
	3	0.0
	4	5.0
	5	5.0
	6	5.0
	7	5.0
	8	5.0

Circuit No.	Pin No.	Voltage VDC
I003	1	0.3
	2	5.0
	3	2.4mv
	4	5.0
	5	1.5mv
	6	9.5
	7	9.5
	8	0.0
	9	0.0
	10	1.2mv
	11	3.5mv
	12	0.0
	13	0.0
	14	5.0
	15	3.5
	16	—
	17	—
	18	5.0

Circuit No.	Pin No.	Voltage VDC
I004	1	15.0
	2	5.0
	3	0.0

Circuit No.	Pin No.	Voltage VDC
I403	1	5.3
	2	9.9
	3	15.0
	4	0.0
	5	10.5
	6	5.8
	7	1.3
	8	0.0
	9	0.0
	10	12.0
	11	0.0
	12	1.3

Circuit No.	Pin No.	Voltage VDC
I401	1	1.2
	2	1.2
	3	5.0
	4	5.0
	5	5.0
	6	0.0
	7	5.0
	8	3.5
	9	—
	10	4.5
	11	5.0
	12	5.0
	13	1.2
	14	5.0
	15	0.3
	16	5.0
	17	0.6
	18	8.0
	19	5.0
	20	8.0
	21	5.0
	22	0.0
	23	7.0
	24	0.0
	25	0.0
	26	8.3
	27	5.0
	28	5.0

Circuit No.	Pin No.	Voltage VDC
I401	29	3.0
	30	3.0
	31	—
	32	9.5
	33	0.0
	34	3.8
	35	4.5
	36	0.5
	37	3.8
	38	4.2
	39	5.0
	40	4.0
	41	—
	42	5.0

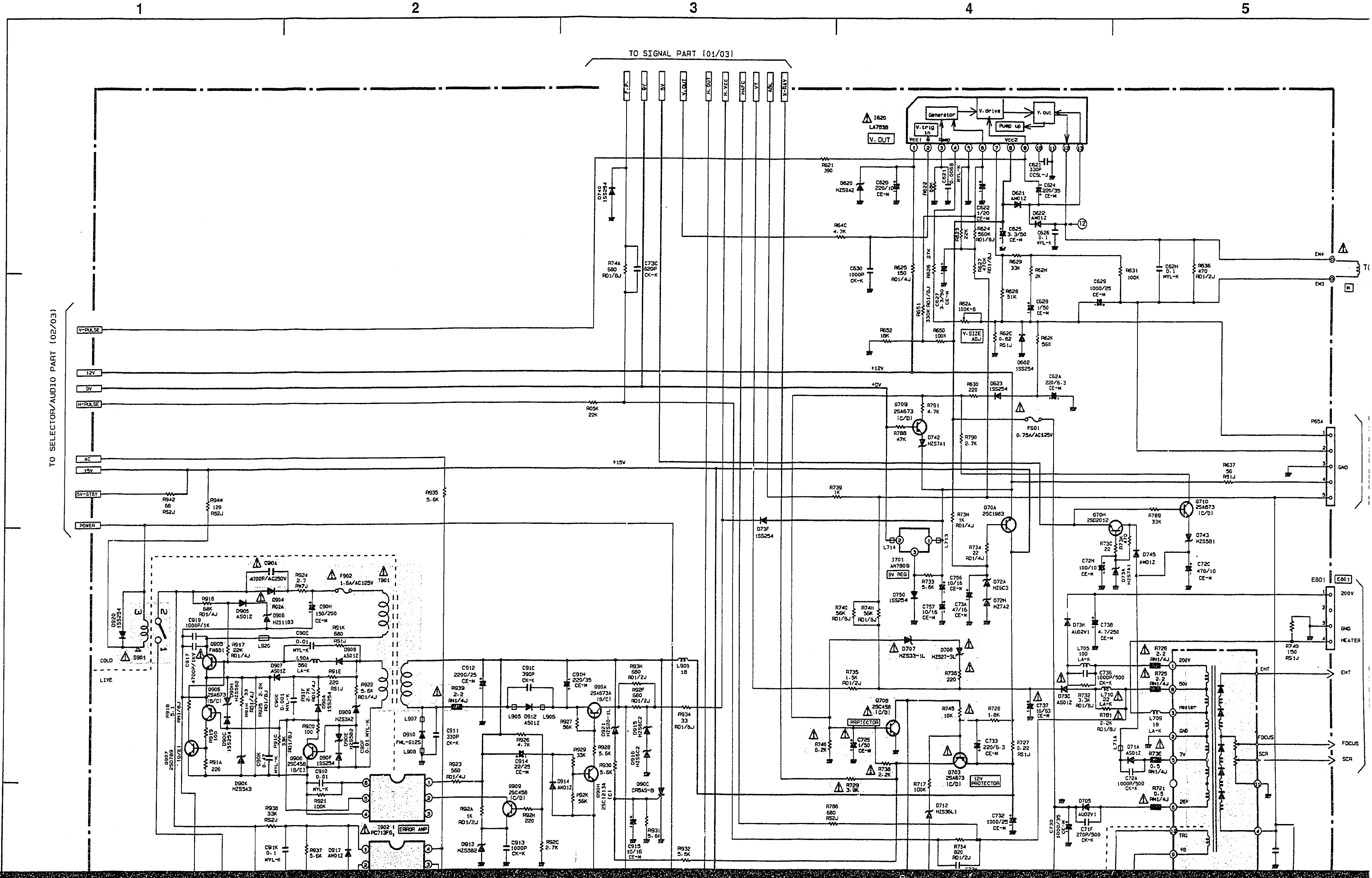
Circuit No.	Pin No.	Voltage VDC
I402	1	12.0
	2	6.0
	3	6.0
	4	6.0
	5	6.0
	6	6.0
	7	0.0
	8	0.0
	9	6.0
	10	6.0
	11	6.0
	12	6.0
	13	—
	14	6.0
	15	0.0
	16	3.0
	17	3.0
	18	—
	19	0.0
	20	2.2
	21	6.0
	22	6.0
	23	5.2
	24	6.0
	25	6.0
	26	6.0
	27	6.0
	28	6.0

Circuit No.	Pin No.	Voltage VDC
I402	29	6.0
	30	6.0

Circuit No.	Pin No.	Voltage VDC
I404	1	6.0
	2	6.0
	3	6.0
	4	6.0
	5	6.0
	6	0.0
	7	0.0
	8	0.0
	9	9.5
	10	9.5
	11	6.0
	12	6.0
	13	6.0
	14	6.0
	15	6.0
	16	12.0

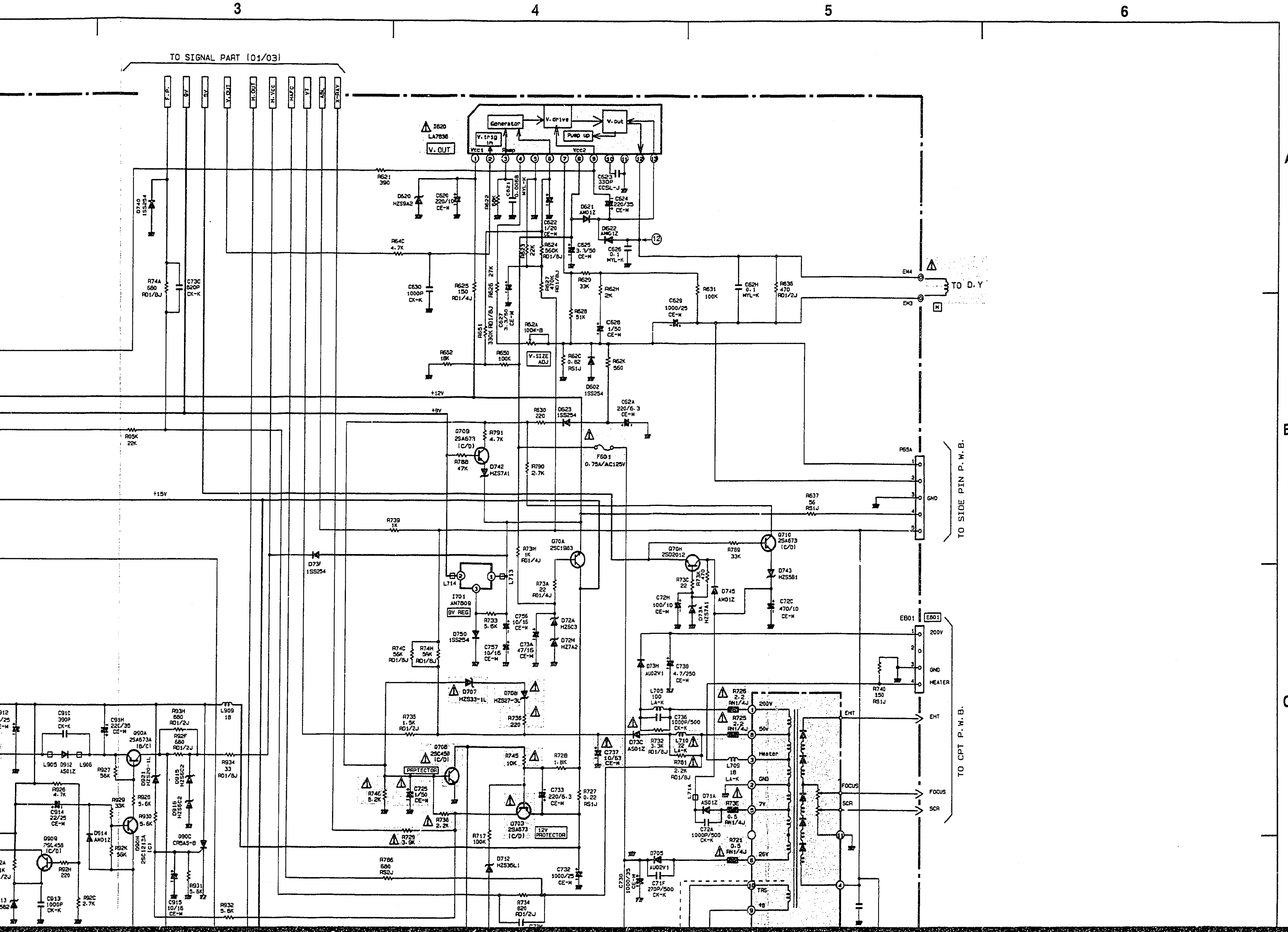
CIRCUIT SCHEMATIC DIAGRAM OF 27CX3B/C743

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded
any of these components, read carefully the PRODUCT SAFETY NOTIC
through improper servicing.

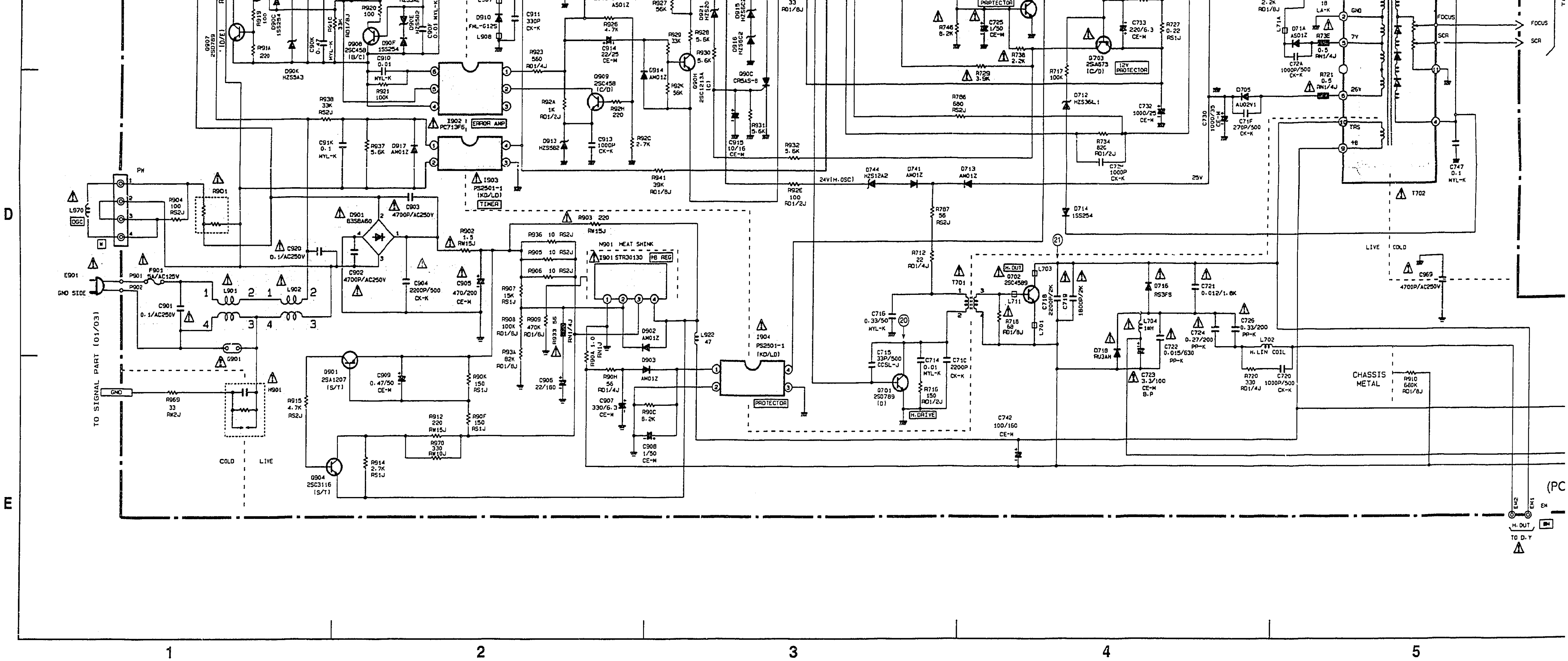

1
2
3
4
5
A
B
C
TO SIGNAL PART (01/03)
F.P.
9V
5V
V.OUT
H.OUT
H.Vcc
HAFC
VT
ABL
V-FIY
TO SELECTOR/AUDIO PART (02/03)
V-PULSE
12V
9V
H-PULSE
AC
15V
5V-STBY
POWER
I620
LA7838
V. OUT
Generator
V.drive
V.out
V.trig in
Ramp
Pump up
Vcc1
Vcc2
V.SIZE ADJ
F601
0.75A/AC125V
I701
AN7809
9V REG
I902
PC713F6
ERROR AMP
F902
1.6A/AC125V
T901
S901
COLD
LIVE
PROTECTOR
12V PROTECTOR
P65A
GND
E801
200V
HEATER
EHT
FOCUS
SCR
80V
Heater
7V
26V
TRS
+12V
+5V
+15V

CIRCUIT SCHEMATIC DIAGRAM OF 27CX3B/C743

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



3
4
5
6
A
B
C
TO SIGNAL PART (01/03)
F.P.
9V
5V
V.OUT
H.OUT
H.Vcc
HAFC
VT
ABL
X-RAY
I620
LA7838
V.OUT
Generator
V.drive
V.out
V.trig in
Pump up
Ramp
Vcc1
Vcc2
R621 390
D620 HZS9A2
C620 220/10 CE-M
C621 0.0068 MYL-K
C623 330P CCSL-J
C624 220/35 CE-M
D621 AM01Z
D622 AM01Z
C622 1/20 CE-M
C625 3.3/50 CE-M
C626 0.1 MYL-K
R640 4.7K
D740 1SS254
R74A 680 RD1/8J
C73C 820P CK-K
C630 1000P CK-K
R625 150 RD1/4J
R626 27K
R623 22K
R624 560K RD1/8J
R627 470K RD1/8J
R629 33K
R62H 2K
C629 1000/25 CE-M
R631 100K
C62H 0.1 MYL-K
R635 470 RD1/2J
EM4
EM3
TO D.Y
R651 330K RD1/8J
C627 3.3/50 CE-M
R62A 100K-B
R628 51K
C628 1/50 CE-M
R652 18K
R650 100K
V-SIZE ADJ
R62C 0.82 RS1J
R62K 560
D602 1SS254
+12V
+9V
R630 220
D623 1SS254
C62A 220/6.3 CE-M
R05K 22K
Q709 2SA673 (C/D)
R791 4.7K
R788 47K
D742 HZS7A1
R790 2.7K
F601 0.75A/AC125V
P65A
TO SIDE PIN P.W.B.
GND
R637 56 RS1J
+15V
R739 1K
Q710 2SA673 (C/D)
Q70H 2SD2012
R789 33K
D743 HZS5B1
D73F 1SS254
L714
L713
R73H 1K RD1/4J
Q70A 2SC1983
R73A 22 RD1/4J
R73C 22
R73K 470
D745 AM01Z
C72H 100/10 CE-M
D73A HZS7A1
C72C 470/10 CE-M
I701 AN7809
9V REG
R733 5.6K
C756 10/16 CE-M
D72A HZS6C3
D72H HZS7A2
EB01
200V
GND
HEATER
D750 1SS254
C757 10/16 CE-M
C73A 47/16 CE-M
R74C 56K RD1/8J
R74H 56K RD1/8J
D73H AU02V1
C738 4.7/250 CE-M
R740 150 RS1J
TO CPT P.W.B.
D707 HZS33-1L
D708 HZS27-3L
R736 220
L705 100 LA-K
R726 2.2 RN1/4J
R725 2.2 RN1/4J
C736 1000P/500 CK-K
L710 22 LA-K
EHT
50V
Heater
R735 1.5K RD1/2J
R745 10K
R728 1.8K
C737 10/63 CE-M
D73C AS01Z
R732 3.3K RD1/8J
R781 2.2K RD1/8J
L709 18 LA-K
Q708 2SC458 (C/D)
PROTECTOR
R74C 8.2K
C725 1/50 CE-M
C733 220/6.3 CE-M
R727 0.22 RS1J
L71A
D71A AS01Z
R73E 0.5 RN1/4J
7V
FOCUS
SCR
R738 2.2K
R729 3.9K
Q703 2SA673 (C/D)
12V PROTECTOR
R717 100K
C72A 1000P/500 CK-K
R721 0.5 RN1/4J
26V
R786 680 RS2J
D712 HZS36L1
C732 1000/25 CE-M
C730 1000/35 CE-M
D705 AU02V1
C71F 270P/500 CK-K
TRS
R734 820 RD1/2J
C91C 390P CK-K
C91H 22/35 CE-M
Q90A 2SA673A (B/C)
R93H 680 RD1/2J
R92F 680 RD1/2J
L909 18
L905
D912 AS01Z
L906
R927 56K
D921 HZS20-1L
D915 HZS6C2
R934 33 RD1/8J
R926 4.7K
C914 22/25 CE-M
R929 33K
R920 5.6K
D916 HZS6C2
R930 5.6K
D914 AM01Z
Q909 2SC458 (C/D)
R92K 56K
Q90H 2SC1213A (C)
Q90C CR5AS-8
R92H 220
C913 1000P CK-K
R92C 2.7K
C915 10/16 CE-M
R931 5.6K
R932 5.6K


D
E
1
2
3
4
5
TO SIGNAL PART (01/03)
GND SIDE
E901
P901
P902
F901 5A/AC125V
C901 0.1/AC250V
L901
L902
L970
DGC
PW
R904 100 RS2J
R901
D901 D3SBA60
C903 4700P/AC250V
C920 0.1/AC250V
C902 4700P/AC250V
C904 2200P/500 CK-K
C905 470/200 CE-M
R902 1.5 RW15J
R903 220 RW15J
R936 10 RS2J
R905 10 RS2J
R906 10 RS2J
N901 HEAT SHINK
I901 STR30130
HB REG
I902 PC713F6
ERROR AMP
I903 PS2501-1 (KD/LD)
TIMER
I904 PS2501-1 (KD/LD)
PROTECTOR
Q901 2SA1207 (S/T)
Q904 2SC3116 (S/T)
Q906 2SC458 (B/C)
Q907 2SD789 (D/E)
Q909 2SC458 (C/D)
D902 AM01Z
D903 AM01Z
D913 HZS5B2
D917 AM01Z
R969 33 RW2J
COLD
LIVE
GND
H901
G901
L922 47
D90K HZS5A3
R938 33K RS2J
R941 39K RD1/8J
R92E 100 RD1/2J
R932 5.6K
24V(H.OSC)
D744 HZS12A2
D741 AM01Z
D713 AM01Z
D714 1SS254
R787 56 RS2J
R712 22 RD1/4J
T701
H.OUT
Q702 2SC4589
Q701 2SD789 (D)
H.DRIVE
L703
L711
L701
C718 2200P/2K
C719 1800P/2K
D716 RS3FS
C721 0.012/1.6K
L704 1mH
C724 0.27/200 PP-K
C722 0.015/630 PP-K
C726 0.33/200 PP-K
L702 H.LIN COIL
R720 330 RD1/4J
C720 1000P/500 CK-K
C723 3.3/100 CE-M B.P
D719 RU3AM
C742 100/160 CE-M
C716 0.33/50 MYL-K
C715 33P/500 CCSL-J
C714 0.01 MYL-K
C71C 2200P CK-K
R716 150 RD1/2J
Q703 2SA673 (C/D)
12V PROTECTOR
D712 HZS36L1
C732 1000/25 CE-M
R734 82C RD1/2J
C730 1000/35 CE-M
D705 AU02V1
C71F 270P/500 CK-K
C72A 1000P/500 CK-K
R721 0.5 RW1/4J
26V
25V
FOCUS
SCR
T702
TRS
C747 0.1 MYL-K
C969 4700P/AC250V
LIVE
COLD
CHASSIS METAL
R910 680K RD1/8J
H.OUT
TO D.Y
EH2
EH1
(PC

- Since this is a basic circuit diagram, the value of the parts is subject t
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken

Circuit No.	Pin No.	Voltage VDC
I620	1	1.3
	2	0.9
	3	0.6
	4	0.5
	5	0.0
	6	0.6
	7	0.6
	8	5.0
	9	0.5
	10	0.5
	11	0.0
	12	2.5
	13	5.0

Circuit No.	Pin No.	Voltage VDC
I701	1	12.0
	2	9.0
	3	0.5

Circuit No.	Pin No.	Voltage VDC
I901	1	0.0
	2	130
	3	160
	4	130

Circuit No.	Pin No.	Voltage VDC
I902	1	14.0
	2	13.0
	3	—
	4	0.0
	5	2.0
	6	0.0

Circuit No.	Pin No.	Voltage VDC
I903	1	1.2
	2	0.5
	3	0.5
	4	0.0

Circuit No.	Pin No.	Voltage VDC
I904	1	-60.0
	2	-60.0
	3	0.0
	4	15.0

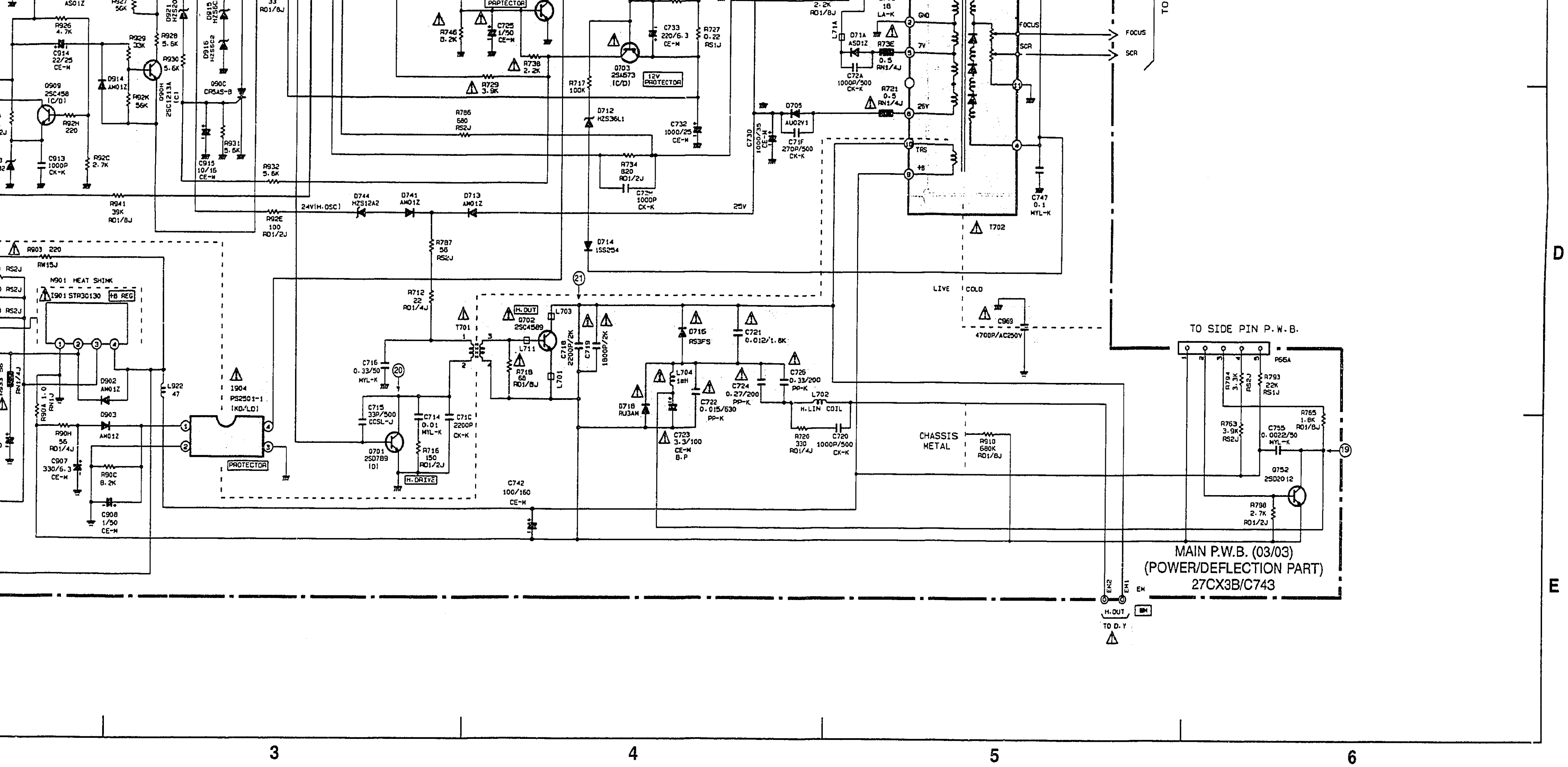
Circuit No.	Pin No.	Voltage VDC
Q305	B	4.0
	C	8.0
	E	4.0
Q306	B	8.0
	C	9.0
	E	5.0
Q308	B	4.0
	C	7.0
	E	3.0
Q309	B	3.5
	C	0.0
	E	4.0
Q310	B	5.0
	C	9.0
	E	4.6
Q312	B	10.0
	C	9.0
	E	9.0
Q314	B	4.0
	C	0.0
	E	4.5
Q315	B	4.5
	C	9.0
	E	3.8
Q401	B	12.0
	C	6.5
	E	12.0

Circuit No.	Pin No.	Voltage VDC
Q402	B	2.4
	C	11.0
	E	1.7
Q403	B	12.0
	C	6.0
	E	12.0
Q404	B	2.4
	C	11.0
	E	1.7
Q405	B	0.5
	C	0.0
	E	0.0

Circuit No.	Pin No.	Voltage VDC
Q406	B	0.5
	C	0.0
	E	0.0
Q407	B	0.0
	C	15.0
	E	0.0
Q50C	B	0.0
	C	6.5
	E	0.0
Q601	B	5.2
	C	9.0
	E	4.5
Q602	B	0.0
	C	4.4
	E	0.0
Q603	B	5.0
	C	1.3
	E	4.5
Q70A	B	12.0
	C	15.0
	E	12.0

Circuit No.	Pin No.	Voltage VDC
Q70H	B	5.7
	C	7.5
	E	5.0
Q701	B	0.3
	C	17.0
	E	0.0
Q702	B	-60.0
	C	41.0
	E	-60.0
Q703	B	15.0
	C	0.0
	E	15.0
Q708	B	0.0
	C	15.0
	E	0.0
Q709	B	9.0
	C	0.0
	E	8.0
Q710	B	5.0
	C	0.0
	E	5.0
Q752 (27v)	B	-60.0
	C	-44.0
	E	-60.0
Q761	B	7.6
	C	9.0
	E	7.0

Circuit No.	Pin No.	Voltage VDC
Q90A	B	40.0
	C	11.0
	E	40.0
Q90C	B	0.0
	C	15.0
	E	0.0
Q90H	B	0.0
	C	40.0
	E	0.0
Q901	B	57.0
	C	57.0
	E	57.0
Q904	B	33.0
	C	34.0
	E	33.0
Q905	B	0.0
	C	122.0
	E	0.0
Q906	B	0.0
	C	0.5
	E	0.5
Q907	B	0.0
	C	0.5
	E	0.0
Q908	B	0.0
	C	2.0
	E	0.0
Q909	B	5.5
	C	12.0
	E	5.5


MAIN P.W.B. (03/03)
(POWER/DEFLECTION PART)
27CX3B/C743
TO SIDE PIN P.W.B.
FOCUS
SCR
T702
LIVE
COLD
CHASSIS METAL
T701
I904 PS2501-1 (KD/LD)
PROTECTOR
H.DRIVE
H.OUT
H.LIN COIL
Q701 2SD789
Q702 2SC4589
Q703 2SA573
Q752 2SD2012
I901 STR30130
N901 HEAT SHINK
H6 REG
12V PROTECTOR
TO D.Y
D
E
3
4
5
6

- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.

Voltage VDC
1.3
0.9
0.6
0.5
0.0
0.6
0.6
5.0
0.5
0.5
0.0
2.5
5.0

Voltage VDC
12.0
9.0
0.5

Voltage VDC
0.0
130
160
130

Circuit No.	Pin No.	Voltage VDC
I902	1	14.0
	2	13.0
	3	—
	4	0.0
	5	2.0
	6	0.0

Circuit No.	Pin No.	Voltage VDC
I903	1	1.2
	2	0.5
	3	0.5
	4	0.0

Circuit No.	Pin No.	Voltage VDC
I904	1	-60.0
	2	-60.0
	3	0.0
	4	15.0

Circuit No.	Pin No.	Voltage VDC
Q305	B	4.0
	C	8.0
	E	4.0
Q306	B	8.0
	C	9.0
	E	5.0
Q308	B	4.0
	C	7.0
	E	3.0
Q309	B	3.5
	C	0.0
	E	4.0
Q310	B	5.0
	C	9.0
	E	4.6
Q312	B	10.0
	C	9.0
	E	9.0
Q314	B	4.0
	C	0.0
	E	4.5
Q315	B	4.5
	C	9.0
	E	3.8
Q401	B	12.0
	C	6.5
	E	12.0

Circuit No.	Pin No.	Voltage VDC
Q402	B	2.4
	C	11.0
	E	1.7
Q403	B	12.0
	C	6.0
	E	12.0
Q404	B	2.4
	C	11.0
	E	1.7
Q405	B	0.5
	C	0.0
	E	0.0

Circuit No.	Pin No.	Voltage VDC
Q406	B	0.5
	C	0.0
	E	0.0
Q407	B	0.0
	C	15.0
	E	0.0
Q50C	B	0.0
	C	6.5
	E	0.0
Q601	B	5.2
	C	9.0
	E	4.5
Q602	B	0.0
	C	4.4
	E	0.0
Q603	B	5.0
	C	1.3
	E	4.5
Q70A	B	12.0
	C	15.0
	E	12.0

Circuit No.	Pin No.	Voltage VDC
Q70H	B	5.7
	C	7.5
	E	5.0
Q701	B	0.3
	C	17.0
	E	0.0
Q702	B	-60.0
	C	41.0
	E	-60.0
Q703	B	15.0
	C	0.0
	E	15.0
Q708	B	0.0
	C	15.0
	E	0.0
Q709	B	9.0
	C	0.0
	E	8.0
Q710	B	5.0
	C	0.0
	E	5.0
Q752 (27v)	B	-60.0
	C	-44.0
	E	-60.0
Q761	B	7.6
	C	9.0
	E	7.0

Circuit No.	Pin No.	Voltage VDC
Q90A	B	40.0
	C	11.0
	E	40.0
Q90C	B	0.0
	C	15.0
	E	0.0
Q90H	B	0.0
	C	40.0
	E	0.0
Q901	B	57.0
	C	57.0
	E	57.0
Q904	B	33.0
	C	34.0
	E	33.0
Q905	B	0.0
	C	122.0
	E	0.0
Q906	B	0.0
	C	0.5
	E	0.5
Q907	B	0.0
	C	0.5
	E	0.0
Q908	B	0.0
	C	2.0
	E	0.0
Q909	B	5.5
	C	12.0
	E	5.5

PRODUCT SAFETY NOTE:
any of these components, r
through improper servicing.

CIRCUIT SCHEMATIC DIAGRAM OF 27CX3B/C743

1	2	3	4

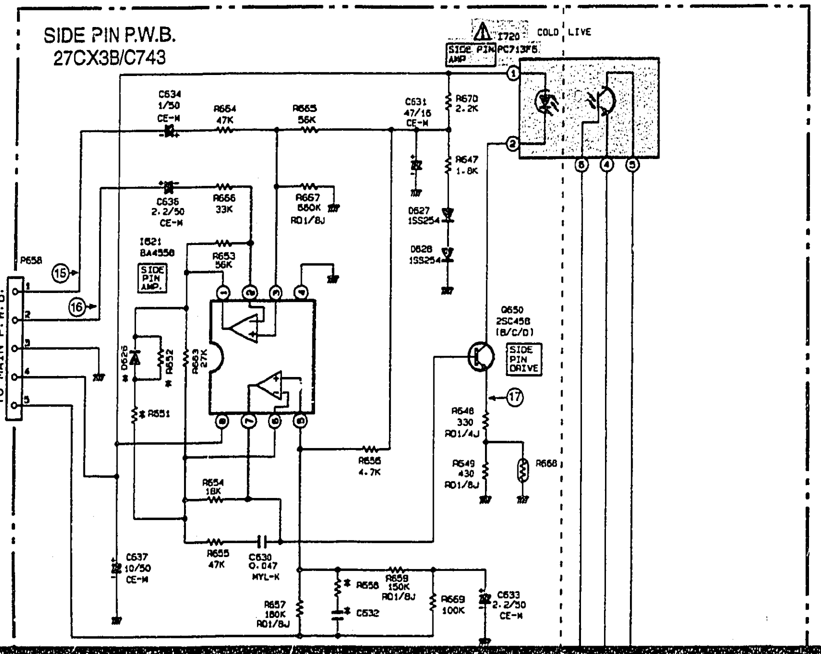
A

B

*

	R651	R652	D626	R658	C632
27CX3B	100K	100K	NO NEED	680	0.0068 MYL-K

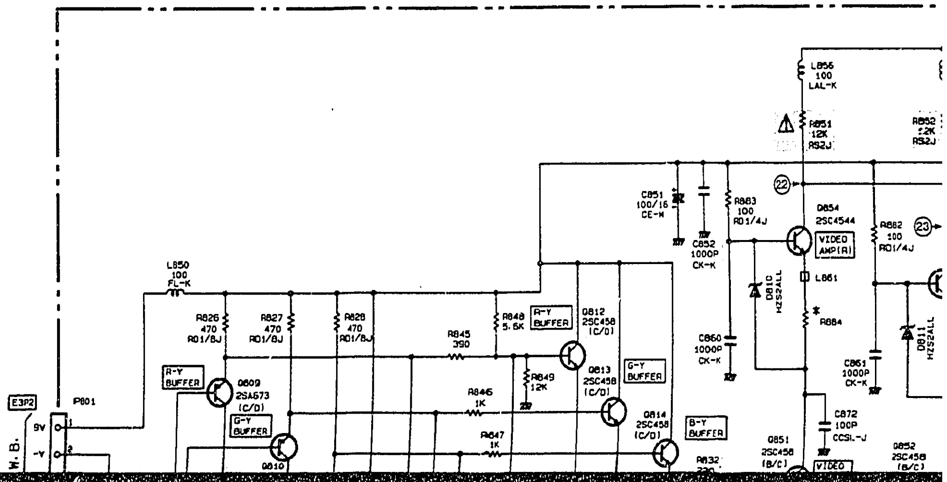
C



SIDE PIN P.W.B.
27CX3B/C743
I720
SIDE PIN AMP
PC713F6
COLD
LIVE
C634 1/50 CE-M
R664 47K
R665 56K
C631 47/16 CE-M
R670 2.2K
R647 1.8K
C636 2.2/50 CE-M
R666 33K
R667 680K RD1/8J
D627 1SS254
D628 1SS254
I621 BA4558
SIDE PIN AMP.
R653 56K
P658
TO MAIN P.W.B.
D626
R652
R651
R663 27K
Q650 2SC458 (B/C/D)
SIDE PIN DRIVE
R648 330 RD1/4J
R649 430 RD1/8J
R668
R656 4.7K
R654 18K
R655 47K
C630 0.047 MYL-K
C637 10/50 CE-M
R658
R659 150K RD1/8J
R657 180K RD1/8J
C632
R669 100K
C633 2.2/50 CE-M

*

	27CX3B
C864	150 CK-K
C865	390 CK-K
C866	150 CK-K
C870	330 CK-K
C875	150 CK-K
C887	330 CK-K
R884	91
R885	91

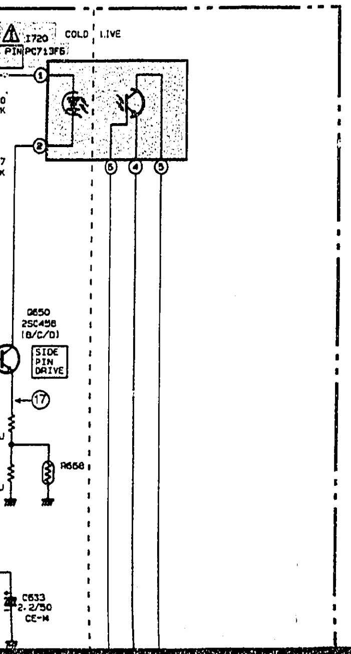


L856 100 LAL-K
R851 12K RS2J
R852 12K RS2J
C851 100/16 CE-M
R863 100 RD1/4J
Q854 2SC4544
VIDEO AMP(R)
R862 100 RD1/4J
C852 1000P CK-K
D810 HZS2ALL
L861
L850 100 FL-K
R826 470 RD1/8J
R827 470 RD1/8J
R828 470 RD1/8J
R845 390
R848 5.6K
R-Y BUFFER
Q812 2SC458 (C/D)
R864
C860 1000P CK-K
D811 HZS2ALL
R-Y BUFFER
Q809 2SA673 (C/D)
G-Y BUFFER
R849 12K
Q813 2SC458 (C/D)
G-Y BUFFER
C861 1000P CK-K
E3P2
P801
9V
-Y
W.B.
R846 1K
R847 1K
Q814 2SC458 (C/D)
B-Y BUFFER
Q810
C872 100P CCSL-J
Q851 2SC458 (B/C)
Q852 2SC458 (B/C)
VIDEO
R832

CIRCUIT SCHEMATIC DIAGRAM OF 27CX3B/C743

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

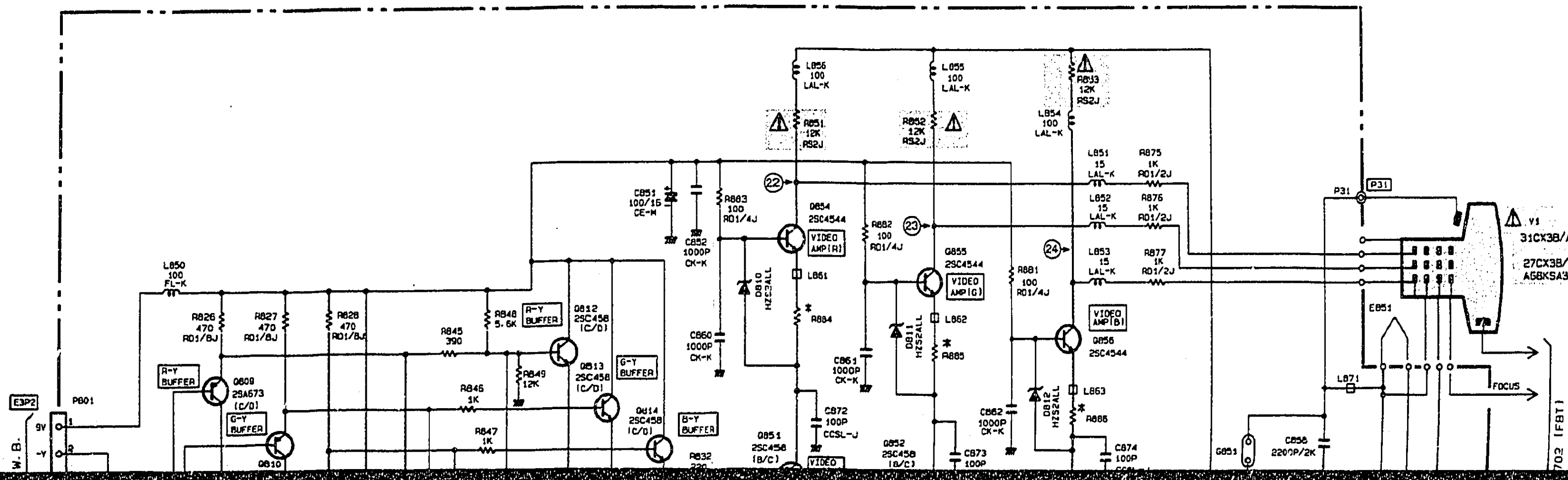
626	R658	C632
NEED	680	0.0068 MYL-K



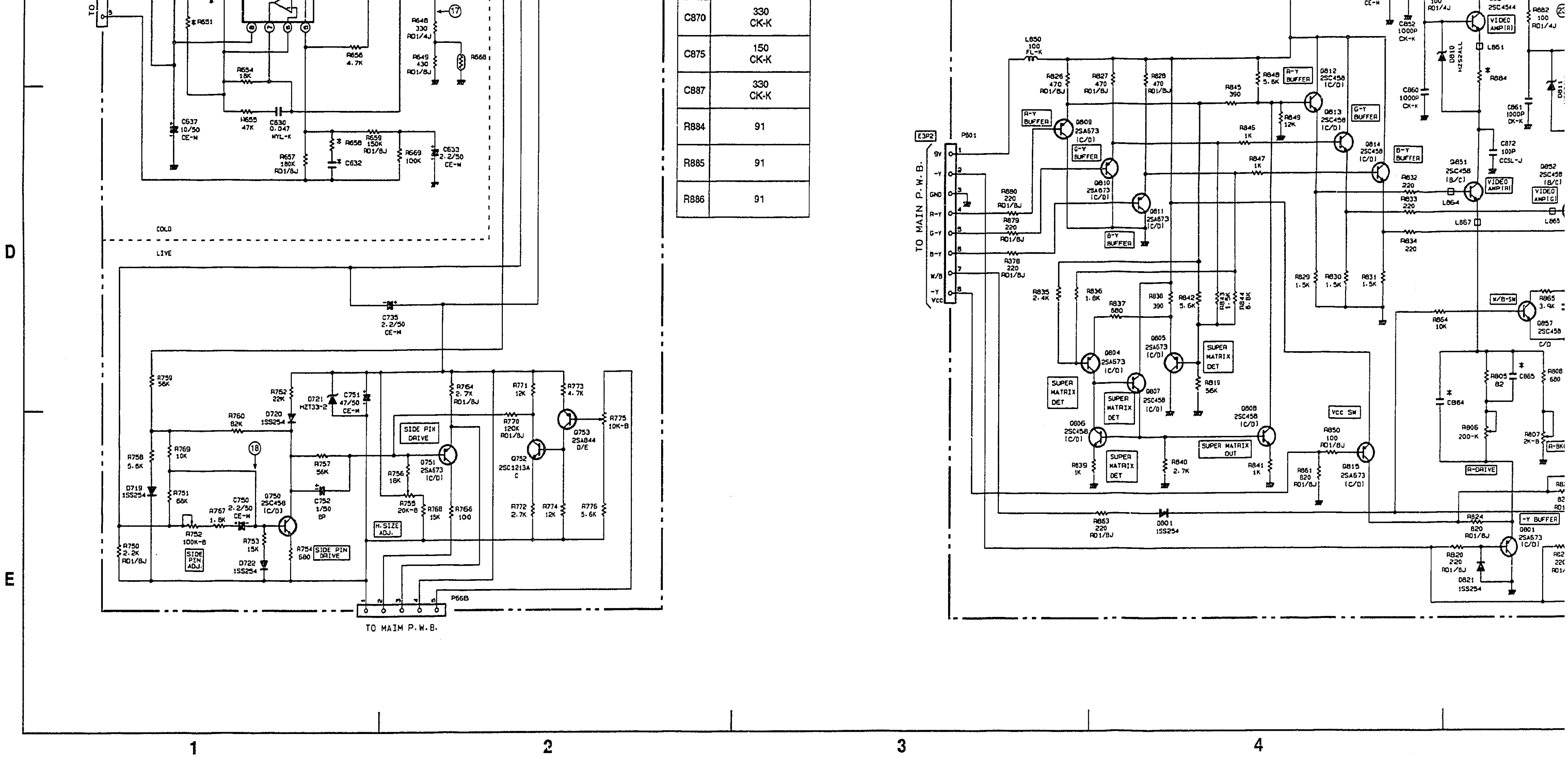
⚠ I720
PIN PC713F6
COLD
LIVE
①
②
⑥
④
⑤
Q650
2SC458
(B/C/D)
SIDE PIN DRIVE
⑰
R658
C633
2.2/50
CE-M

*

	27CX3B
C864	150 CK-K
C865	390 CK-K
C866	150 CK-K
C870	330 CK-K
C875	150 CK-K
C887	330 CK-K
R884	91
R885	91



2
3
4
5
6
A
B
C
E3P2
P801
9V
-Y
W.B.
L850
100
FL-K
R826
470
RD1/8J
R827
470
RD1/8J
R828
470
RD1/8J
R-Y BUFFER
Q809
2SA673
(C/D)
G-Y BUFFER
Q810
R845
390
R846
1K
R847
1K
R848
5.6K
R849
12K
R-Y BUFFER
Q812
2SC458
(C/D)
Q813
2SC458
(C/D)
G-Y BUFFER
Q814
2SC458
(C/D)
B-Y BUFFER
R832
220
C851
100/16
CE-M
C852
1000P
CK-K
R883
100
RD1/4J
C860
1000P
CK-K
Q851
2SC458
(B/C)
VIDEO
C872
100P
CCSL-J
L856
100
LAL-K
⚠ R851
12K
RS2J
㉒
Q854
2SC4544
VIDEO AMP(R)
L861
D810
HZS2ALL
* R884
L855
100
LAL-K
R852
12K
RS2J
⚠
R882
100
RD1/4J
㉓
Q855
2SC4544
VIDEO AMP(G)
L862
D811
HZS2ALL
* R885
C861
1000P
CK-K
Q852
2SC458
(B/C)
C873
100P
⚠ R833
12K
RS2J
L854
100
LAL-K
㉔
R881
100
RD1/4J
VIDEO AMP(B)
Q856
2SC4544
L863
D812
HZS2ALL
* R886
C862
1000P
CK-K
C874
100P
L851
15
LAL-K
R875
1K
RD1/2J
L852
15
LAL-K
R876
1K
RD1/2J
L853
15
LAL-K
R877
1K
RD1/2J
P31
P31
⚠ V1
31CX3B/A78LCU30X
27CX3B/27CX35B
A68KSA30X
E851
L871
FOCUS
G851
C856
2200P/2K
702 (FBT)


TO
R651
R648
330
RD1/4J
⑰
R649
430
RD1/8J
R668
R656
4.7K
R654
18K
R655
47K
C630
0.047
MYL-K
C637
10/50
CE-M
R658
R659
150K
RD1/8J
R669
100K
C633
2.2/50
CE-M
R657
180K
RD1/8J
C632
COLD
LIVE
D
C735
2.2/50
CE-M
R759
56K
R762
22K
D721
HZT33-2
C751
47/50
CE-M
R764
2.7K
RD1/8J
R771
12K
R773
4.7K
R760
82K
D720
1SS254
SIDE PIN
DRIVE
R770
120K
RD1/8J
R775
10K-B
Q753
2SA844
D/E
R758
5.6K
R769
10K
⑱
R757
56K
Q751
2SA673
(C/D)
Q752
2SC1213A
C
D719
1SS254
R751
68K
R756
18K
C750
2.2/50
CE-M
Q750
2SC458
(C/D)
C752
1/50
BP
R755
20K-B
R768
15K
R766
100
R772
2.7K
R774
12K
R776
5.6K
R767
1.8K
R752
100K-B
R753
15K
H.SIZE
ADJ.
R750
2.2K
RD1/8J
SIDE
PIN
ADJ.
D722
1SS254
R754
680
SIDE PIN
DRIVE
E
P668
TO MAIM P.W.B.
L850
100
FL-K
R826
470
RD1/8J
R827
470
RD1/8J
R828
470
RD1/8J
R845
390
R848
5.6K
R-Y
BUFFER
Q812
2SC458
(C/D)
C852
1000P
CK-K
D810
HZS2ALL
VIDEO
AMP(R)
2SC4544
R882
100
RD1/4J
L861
R884
C860
1000P
CK-K
C861
1000P
CK-K
R-Y
BUFFER
Q809
2SA673
(C/D)
R849
12K
Q813
2SC458
(C/D)
G-Y
BUFFER
E3P2
P801
R846
1K
C872
100P
CCSL-J
G-Y
BUFFER
Q814
2SC458
(C/D)
B-Y
BUFFER
R847
1K
Q851
2SC458
(B/C)
Q852
2SC458
(B/C)
Q810
2SA673
(C/D)
R832
220
VIDEO
AMP(R)
VIDEO
AMP(G)
TO MAIN P.W.B.
9V
-Y
GND
R-Y
G-Y
B-Y
W/B
-Y
Vcc
R880
220
RD1/8J
Q811
2SA673
(C/D)
R833
220
L864
L867
L865
R879
220
RD1/8J
B-Y
BUFFER
R834
220
R378
220
RD1/8J
R835
2.4K
R836
1.8K
R837
680
R838
390
R842
5.6K
R843
1.5K
R844
6.8K
R829
1.5K
R830
1.5K
R831
1.5K
W/B-SW
R865
3.9K
R864
10K
Q857
2SC458
C/D
Q804
2SA673
(C/D)
Q805
2SA673
(C/D)
SUPER
MATRIX
DET
R819
56K
R805
82
C865
R808
680
SUPER
MATRIX
DET
Q807
2SC458
(C/D)
SUPER
MATRIX
DET
C864
Q806
2SC458
(C/D)
Q808
2SC458
(C/D)
Vcc SW
R806
200-K
R807
2K-B
SUPER MATRIX
OUT
R850
100
RD1/8J
R839
1K
SUPER
MATRIX
DET
R840
2.7K
R841
1K
R861
820
RD1/8J
Q815
2SA673
(C/D)
R-DRIVE
R863
220
RD1/8J
D801
1SS254
R824
820
RD1/8J
-Y BUFFER
Q801
2SA673
(C/D)
R820
220
RD1/8J
D821
1SS254
1
2
3
4

C870	330 CK-K
C875	150 CK-K
C887	330 CK-K
R884	91
R885	91
R886	91

- Since this is a basi
- All DC voltage to be

Circuit No.	Pin No.	Voltage VDC
I621	1	5.0
	2	5.0
	3	5.0
	4	0.0
	5	5.7
	6	5.7
	7	6.2
	8	10.9

Circuit No.	Pin No.	Voltage VDC
I720	1	11.0
	2	9.8
	3	0.0
	4	-56.0
	5	-36.0

Circuit No.	Pin No.	Voltage VDC
Q650 Side P.	B	6.5
	C	9.8
	E	5.6
Q750 Side P.	B	-60.0
	C	-50.0
	E	-60.0
Q751 Side P.	B	-41.0
	C	-60.0
	E	-41.0
Q752 Side P.	B	-60.0
	C	-35.0
	E	-60.0
Q753 Side P.	B	-35.0
	C	-60.0
	E	-35.0

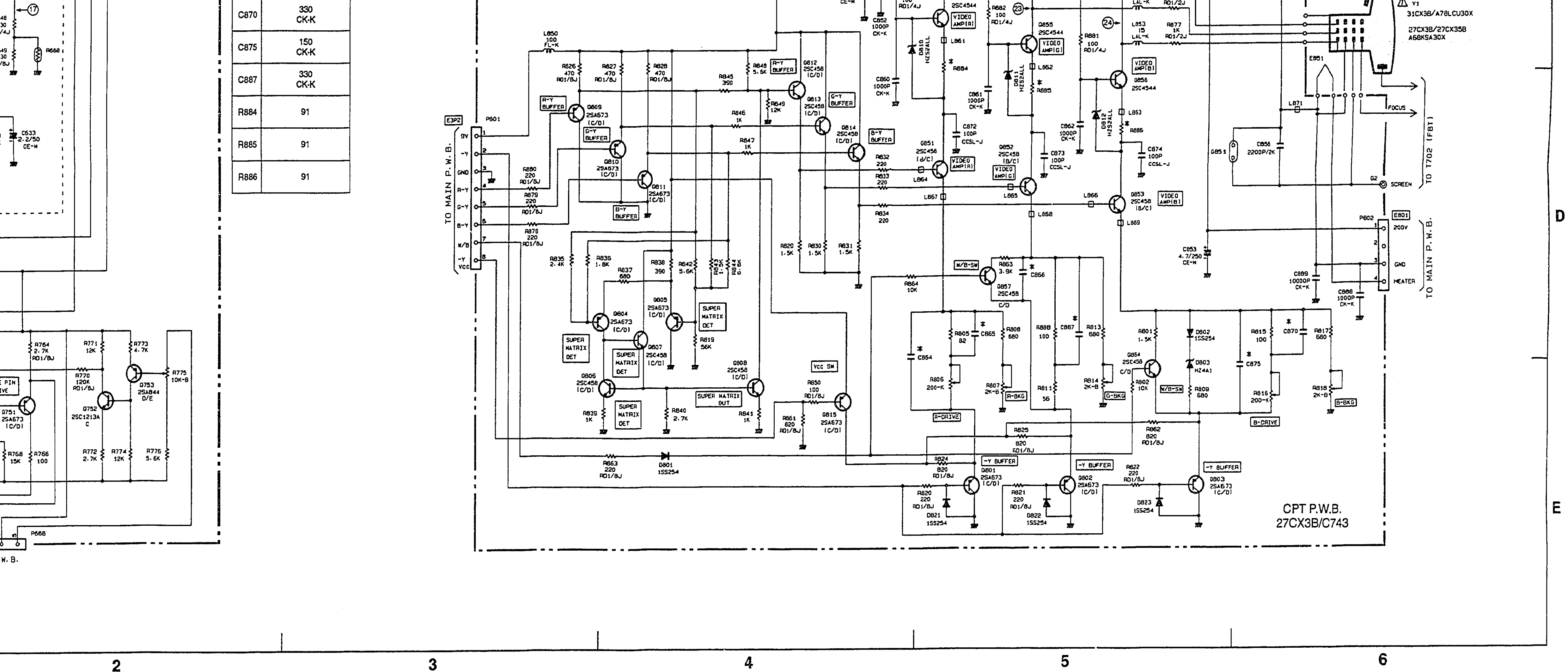
Circuit No.	Pin No.	Voltage VDC
Q801 CPT	B	4.0
	C	0.0
	E	4.0
Q802 CPT	B	3.8
	C	0.0
	E	3.9
Q803 CPT	B	4.0
	C	0.0
	E	4.0
Q804 CPT	B	6.0
	C	1.4
	E	6.4
Q805 CPT	B	5.8
	C	0.0
	E	6.5

Circuit No.	Pin No.	Voltage VDC
Q806 CPT	B	0.7
	C	1.4
	E	0.0
Q807 CPT	B	1.3
	C	9.0
	E	0.6

Circuit No.	Pin No.	Voltage VDC
Q808 CPT	B	0.9
	C	6.0
	E	0.0
Q809 CPT	B	5.0
	C	0.0
	E	6.0
Q810 CPT	B	5.0
	C	0.0
	E	6.0
Q811 CPT	B	5.0
	C	0.0
	E	6.0
Q812 CPT	B	6.0
	C	9.0
	E	5.0
Q813 CPT	B	6.0
	C	9.0
	E	5.0
Q814 CPT	B	0.9
	C	9.0
	E	0.9
Q815 CPT	B	5.0
	C	3.9
	E	3.9

Circuit No.	Pin No.	Voltage VDC
Q851 CPT	B	5.0
	C	8.0
	E	5.0
Q852 CPT	B	5.0
	C	7.6
	E	4.7
Q853 CPT	B	5.0
	C	8.0
	E	5.0
Q854 CPT	B	1.5
	C	26.0
	E	1.5
Q855 CPT	B	1.2
	C	24.0
	E	1.2
Q856 CPT	B	1.2
	C	24.0
	E	1.2
Q857 CPT	B	4.5
	C	3.9
	E	3.9
Q864 CPT	B	4.6
	C	4.0
	E	4.0

C870	330 CK-K
C875	150 CK-K
C887	330 CK-K
R884	91
R885	91
R886	91



CPT P.W.B.
27CX3B/C743
TO MAIN P.W.B.
TO T702 (FBT)
FOCUS
SCREEN
200V
GND
HEATER
31CX3B/A78LCU30X
27CX3B/27CX35B
A68KSA30X
R-Y BUFFER
G-Y BUFFER
B-Y BUFFER
SUPER MATRIX DET
SUPER MATRIX OUT
VIDEO AMP(R)
VIDEO AMP(G)
VIDEO AMP(B)
W/B-SW
Vcc SW
-Y BUFFER
R-DRIVE
B-DRIVE
R-BKG
G-BKG
B-BKG
P601
P802
P668
2
3
4
5
6
D
E

- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.

Circuit No.	Pin No.	Voltage VDC
I621	1	5.0
	2	5.0
	3	5.0
	4	0.0
	5	5.7
	6	5.7
	7	6.2
	8	10.9

Circuit No.	Pin No.	Voltage VDC
I720	1	11.0
	2	9.8
	3	0.0
	4	-56.0
	5	-36.0

Circuit No.	Pin No.	Voltage VDC
Q650 Side P.	B	6.5
	C	9.8
	E	5.6
Q750 Side P.	B	-60.0
	C	-50.0
	E	-60.0
Q751 Side P.	B	-41.0
	C	-60.0
	E	-41.0
Q752 Side P.	B	-60.0
	C	-35.0
	E	-60.0
Q753 Side P.	B	-35.0
	C	-60.0
	E	-35.0

Circuit No.	Pin No.	Voltage VDC
Q801 CPT	B	4.0
	C	0.0
	E	4.0
Q802 CPT	B	3.8
	C	0.0
	E	3.9
Q803 CPT	B	4.0
	C	0.0
	E	4.0
Q804 CPT	B	6.0
	C	1.4
	E	6.4
Q805 CPT	B	5.8
	C	0.0
	E	6.5

Circuit No.	Pin No.	Voltage VDC
Q806 CPT	B	0.7
	C	1.4
	E	0.0
Q807 CPT	B	1.3
	C	9.0
	E	0.6

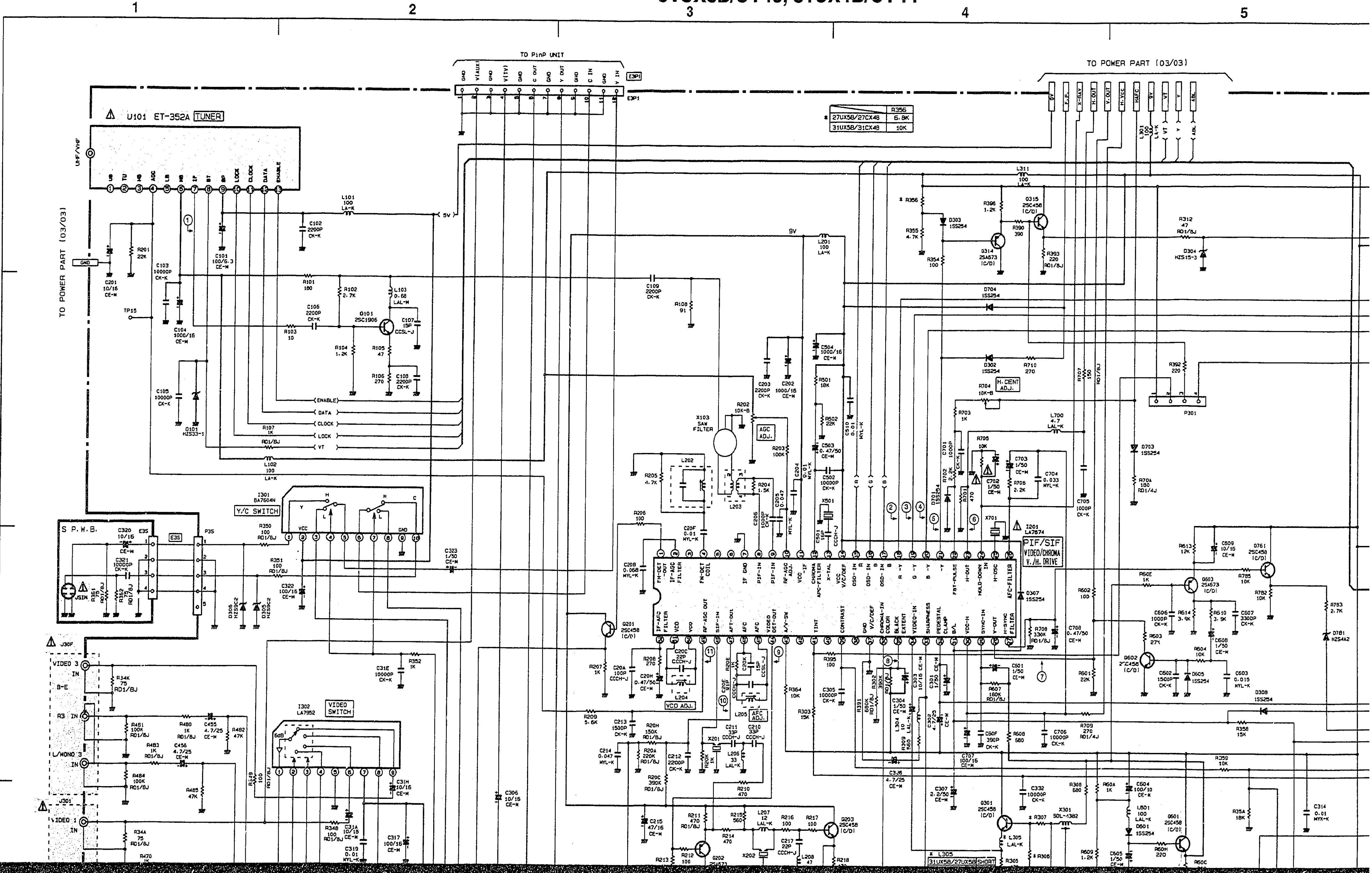
Circuit No.	Pin No.	Voltage VDC
Q808 CPT	B	0.9
	C	6.0
	E	0.0
Q809 CPT	B	5.0
	C	0.0
	E	6.0
Q810 CPT	B	5.0
	C	0.0
	E	6.0
Q811 CPT	B	5.0
	C	0.0
	E	6.0
Q812 CPT	B	6.0
	C	9.0
	E	5.0
Q813 CPT	B	6.0
	C	9.0
	E	5.0
Q814 CPT	B	0.9
	C	9.0
	E	0.9
Q815 CPT	B	5.0
	C	3.9
	E	3.9

Circuit No.	Pin No.	Voltage VDC
Q851 CPT	B	5.0
	C	8.0
	E	5.0
Q852 CPT	B	5.0
	C	7.6
	E	4.7
Q853 CPT	B	5.0
	C	8.0
	E	5.0
Q854 CPT	B	1.5
	C	26.0
	E	1.5
Q855 CPT	B	1.2
	C	24.0
	E	1.2
Q856 CPT	B	1.2
	C	24.0
	E	1.2
Q857 CPT	B	4.5
	C	3.9
	E	3.9
Q864 CPT	B	4.6
	C	4.0
	E	4.0

27UX5B/C745
27CX4B/C744
31UX5B/CY45
31CX4B/CY44

CIRCUIT SCHEMATIC DIAGRAM OF 27UX5B/C745, 27CX4B/C744, 31UX5B/CY45, 31CX4B/CY44

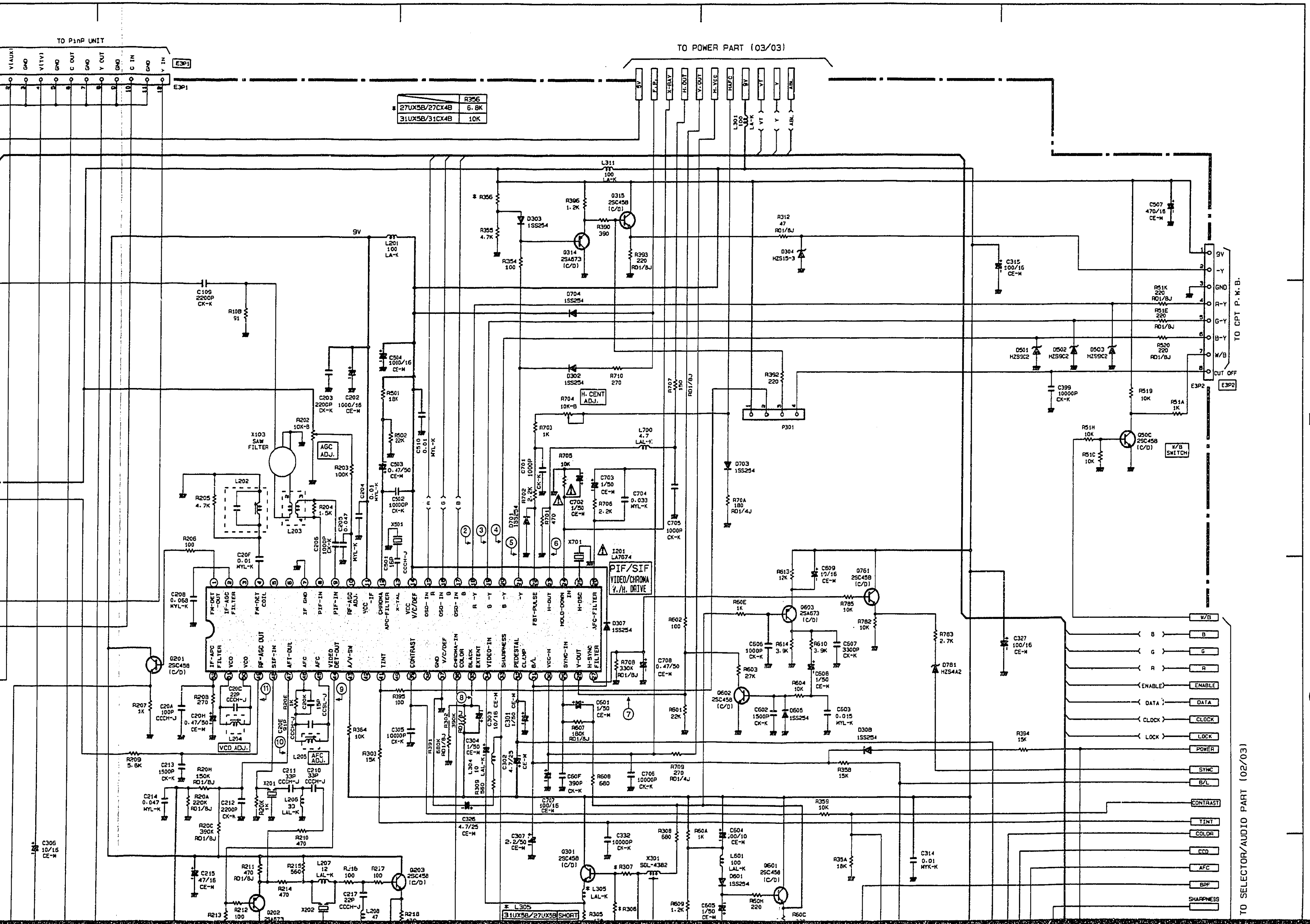
PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded
any of these components, read carefully the PRODUCT SAFETY NOTICE
through improper servicing.



1
2
3
4
5
A
B
C
TO PinP UNIT
GND
V(AUX)
GND
V(TV)
C OUT
GND
Y OUT
GND
C IN
GND
Y IN
E3P1
TO POWER PART (03/03)
9V
F.P.
X-RAY
H.OUT
V.OUT
H.VEC
HAFC
VT
Y
ABL
R356
* 27UX5B/27CX4B 6.8K
31UX5B/31CX4B 10K
⚠ U101 ET-352A TUNER
UHF/VHF
UB
TU
MB
AGC
LB
HB
IF
BT
BP
LOCK
CLOCK
DATA
ENABLE
TO POWER PART (03/03)
GND
TP15
L101 100 LA-K
5V
C102 2200P CK-K
C101 100/6.3 CE-M
R201 22K
C201 10/16 CE-M
C103 10000P CK-K
C104 1000/16 CE-M
R101 180
R102 2.7K
L103 0.68 LAL-M
C106 2200P CK-K
Q101 2SC1906
C107 15P CCSL-J
R103 10
R104 1.2K
R105 47
R106 270
C108 2200P CK-K
C105 10000P CK-K
D101 HZS33-1
ENABLE
DATA
CLOCK
LOCK
VT
R107 1K
RD1/8J
L102 100 LA-K
C109 2200P CK-K
R108 91
I301 BA7604N
Y/C SWITCH
VCC
GND
S P.W.B.
C320 10/16 CE-M
E3S
P3S
C321 10000P CK-K
JSIN
R351 75 RD1/8J
R352 75 RD1/8J
R350 100 RD1/8J
R351 100 RD1/8J
C322 100/16 CE-M
C323 1/50 CE-M
D305 HZS9C2
D306 HZS9C2
⚠ J30P
VIDEO 3 IN
R34K 75 RD1/8J
B-E
R3 IN
R481 100K RD1/8J
R480 1K RD1/8J
C455 4.7/25 CE-M
R482 47K
R483 1K RD1/8J
C456 4.7/25 CE-M
L/MONO 3 IN
R484 100K RD1/8J
R485 47K
⚠ J301
VIDEO 1 IN
R34A 75 RD1/8J
R470 1K
I302 LA7952
VIDEO SWITCH
6dB
R349 100 RD1/8J
C31E 10000P CK-K
R352 1K
C31H 10/16 CE-M
R348 100 RD1/8J
C31A 10/16 CE-M
C317 100/16 CE-M
C319 0.01 MYL-K
C306 10/16 CE-M
9V
L201 100 LA-K
C504 1000/16 CE-M
C203 2200P CK-K
C202 1000/16 CE-M
R501 18K
R202 10K-B
AGC ADJ.
X103 SAW FILTER
R502 22K
R203 100K
C503 0.47/50 CE-M
C502 10000P CK-K
C510 0.01 MYL-K
C204 0.01 MYL-K
C205 0.047
C206 1000P CK-K
X501
C501 10P
L202
L203
R204 1.5K
R205 4.7K
R206 100
C20F 0.01 MYL-K
C208 0.068 MYL-K
Q201 2SC458 (C/D)
R207 1K
C20A 100P CCCH-J
R208 270
C20C 22P CCCH-J
C20H 0.47/50 CE-M
L204
VCO ADJ.
R209 5.6K
C213 1500P CK-K
R20H 150K RD1/8J
R20A 220K RD1/8J
R20C 390K RD1/8J
C214 0.047 MYL-K
C212 2200P CK-K
X201
R20K 1K
L206 33 LAL-K
C211 33P CCCH-J
C210 33P CCCH-J
L205 AFC ADJ.
R210 470
C215 47/16 CE-M
R211 470 RD1/8J
R219 560
L207 12 LAL-K
R214 470
R216 100
R217 100
Q203 2SC458 (C/D)
C217 22P CCCH-J
X202
Q202
R212 100
R213
L208 47
R218
⚠ I201 LA7674
PIF/SIF VIDEO/CHROMA V./H. DRIVE
FM-DET OUT
IF-AGC FILTER
FM-DET COIL
IF GND
PIF-IN
RF-AGC ADJ.
VCC -IF
CHROMA APC-FILTER
X-TAL
VCC V/C/DEF
OSD-IN R
OSD-IN G
OSD-IN B
R -Y
G -Y
B -Y
-Y
FBT-PULSE
H-OUT
HOLD-DOWN IN
H-OSC
AFC-FILTER
IF-AFC FILTER
VCO
VCO
RF-AGC OUT
SIF-IN
AFT-Out
AFC
AFC
VIDEO DET-OUT
A/V-SW
TINT
CONTRAST
GND V/C/DEF
CHROMA-IN COLOR
BLACK EXTENT
VIDEO-IN
SHARPNESS
PEDESTAL CLAMP
B/L
VCC-H
SYNC-IN
V-OUT
V-SYNC FILTER
D307 1SS254
R708 330K RD1/8J
C708 0.47/50 CE-M
R395 100
C305 10000P CK-K
R364 10K
R303 15K
R391
R302 390K RD1/8J
C303 10/16 CE-M
C304 1/50 CE-M
L304 LAL-K
R309 560
C302 4.7/25 CE-M
C301 1/50 CE-M
C306 4.7/25 CE-M
C501 1/50 CE-M
R607 180K RD1/8J
C50F 390P CK-K
R608 680
C706 10000P CK-K
R709 270 RD1/4J
C707 100/16 CE-M
C307 2.2/50 CE-M
C332 10000P CK-K
Q301 2SC458 (C/D)
* R307
X301 SDL-1382
L305 LAL-K
* R308
R305
* L305
31UX5B/27UX5B SHORT
R308 680
R60A 1K
C504 100/10 CE-M
L601 100 LAL-K
D601 1SS254
Q601 2SC458 (C/D)
R60H 220
R609 1.2K
C605 1/50 CE-M
R60C
L311 100 LA-K
* R356
R355 4.7K
D303 1SS254
R395 1.2K
Q315 2SC458 (C/D)
R390 390
Q314 2SA673 (C/D)
R354 100
R393 220 RD1/8J
D704 1SS254
D302 1SS254
R710 270
R704 10K-B
H.CENT ADJ.
R703 1K
R707 150
RD1/8J
L700 4.7 LAL-K
C701 1000P
R705 10K
C703 1/50 CE-M
C704 0.033 MYL-K
C702 1/50 CE-M
R706 2.2K
R702 2.2K
R701 470
D701 1SS254
C705 1000P CK-K
X701
L301 100 LA-K
R312 47 RD1/8J
D304 HZS15-3
R392 220
P301
D703 1SS254
R70A 180 RD1/4J
R613 12K
C609 10/16 CE-M
Q761 2SC458 (C/D)
R785 10K
R782 10K
R783 2.7K
D781 HZS4A2
R60E 1K
Q603 2SA673 (C/D)
R602 100
C606 1000P CK-K
R614 3.9K
R610 3.9K
C607 330P CK-K
R603 27K
C608 1/50 CE-M
R604 10K
Q602 2SC458 (C/D)
R601 22K
C602 1500P CK-K
D605 1SS254
C603 0.015 MYL-K
D308 1SS254
R358 15K
R359 10K
R35A 18K
C314 0.01 MYX-K
R
G
B
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪

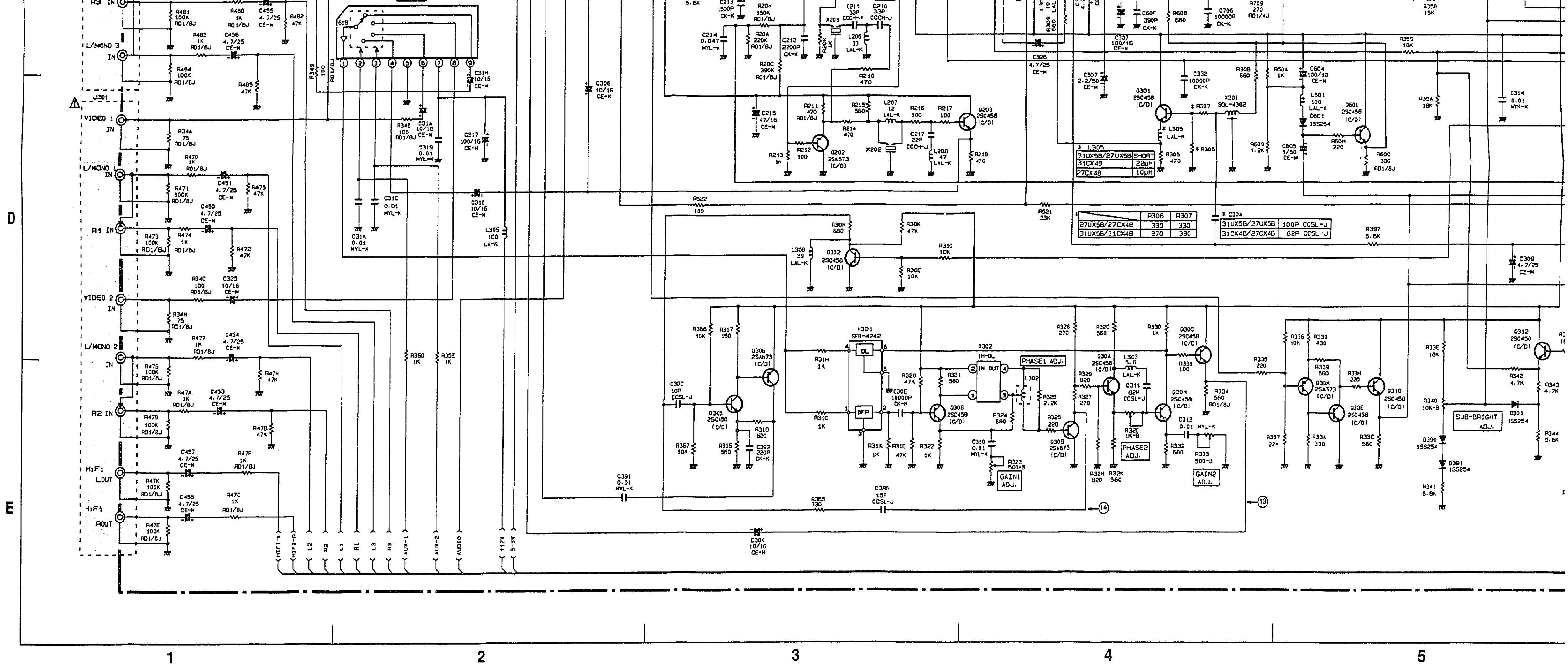
CIRCUIT SCHEMATIC DIAGRAM OF 27UX5B/C745, 27CX4B/C744, 31UX5B/CY45, 31CX4B/CY44

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



*	R356
27UX5B/27CX4B	6.8K
31UX5B/31CX4B	10K

3
4
5
6
A
B
C
TO PinP UNIT
E3P1
TO POWER PART (03/03)
9V
F.P.
X-RAY
H.OUT
V.OUT
H.VCC
HAFC
YT
Y
ABL
L311 100 LA-K
Q315 2SC458 (C/D)
Q314 2SA673 (C/D)
D303 1SS254
R396 1.2K
R390 390
R393 220 RD1/8J
R355 4.7K
R354 100
R312 47 RD1/8J
D304 HZS15-3
C315 100/16 CE-H
C507 470/16 CE-H
L201 100 LA-K
C109 2200P CK-K
R108 91
D704 1SS254
C504 1000/16 CE-H
D302 1SS254
R710 270
R392 220
P301
H.CENT ADJ.
R704 10K-B
C203 2200P CK-K
C202 1000/16 CE-H
R501 18K
R502 22K
R202 10K-B
AGC ADJ.
X103 SAW FILTER
L700 4.7 LAL-K
D703 1SS254
R70A 180 RD1/4J
C705 1000P CK-K
L202
L203
R205 4.7K
R204 1.5K
R206 100
C20F 0.01 MYL-K
C208 0.068 MYL-K
X501
X701
⚠ I201 LA7674
PIF/SIF VIDEO/CHROMA V./H. DRIVE
D307 1SS254
R708 330K RD1/8J
C708 0.47/50 CE-H
R602 100
Q201 2SC458 (C/D)
R207 3K
C20A 100P CCCH-J
R208 270
C20C 22P CCCH-J
C20H 0.47/50 CE-H
L204
VCO ADJ.
L205 AFC ADJ.
R209 5.6K
C213 1500P CK-K
R20H 150K RD1/8J
C214 0.047 MYL-K
R20A 220K RD1/8J
C212 2200P CK-K
R20C 390K RD1/8J
C211 33P CCCH-J
C210 33P CCCH-J
X201
L206 33 LAL-K
R210 470
C306 10/16 CE-H
C215 47/16 CE-H
R211 470 RD1/8J
R215 560
L207 12 LAL-K
R216 100
R217 100
Q203 2SC458 (C/D)
R214 470
C217 22P CCCH-J
L208 47
R213
R212 100
Q202
X202
R218
R395 100
R354 10K
C305 10000P CK-K
R303 15K
C326 4.7/25 CE-H
C707 100/15 CE-H
C307 2.2/50 CE-H
C332 10000P CK-K
Q301 2SC458 (C/D)
R307
X301 SOL-4382
L305 LAL-K
* L305 31UX5B/27UX5B SHORT
R305
R306
R308 680
C601 1/50 CE-H
R607 180K RD1/8J
C60F 390P CK-K
R608 680
C706 10000P CK-K
R709 270 RD1/4J
R601 22K
Q602 2SC458 (C/D)
R603 27K
C602 1500P CK-K
D605 1SS254
R604 10K
C503 0.015 MYL-K
D308 1SS254
R60E 1K
Q603 2SA673 (C/D)
C606 1000P CK-K
R614 3.9K
R610 3.9K
C607 3300P CK-K
C608 1/50 CE-H
C609 10/16 CE-H
R613 12K
Q761 2SC458 (C/D)
R785 10K
R782 10K
R783 2.7K
D781 HZS4A2
C327 100/16 CE-H
R394 15K
R358 15K
R359 10K
R35A 18K
C314 0.01 MYK-K
R60A 1K
C604 100/10 CE-H
L601 100 LAL-K
D601 1SS254
Q601 2SC458 (C/D)
R60H 220
R609 1.2K
C605 1/50 CE-H
R60C
D501 HZS9C2
D502 HZS9C2
D503 HZS9C2
R51K 220 RD1/8J
R51E 220 RD1/8J
R520 220 RD1/8J
C399 10000P CK-K
R519 10K
R51A 1K
R51H 10K
R51C 10K
Q50C 2SC458 (C/D)
W/B SWITCH
E3P2
TO CPT P.W.B.
9V
-Y
GND
R-Y
G-Y
B-Y
W/B
CUT OFF
W/B
B
G
R
ENABLE
DATA
CLOCK
LOCK
POWER
SYNC
B/L
CONTRAST
TINT
COLOR
CCD
AFC
BPF
SHARPNESS
TO SELECTOR/AUDIO PART (02/03)


D
E
1
2
3
4
5
R3 IN
L/MONO 3 IN
J301
VIDEO 1 IN
L/MONO 1 IN
R1 IN
VIDEO 2 IN
L/MONO 2 IN
R2 IN
HiFi LOUT
HiFi ROUT
HIFI-L
HIFI-R
L2
R2
L1
R1
L3
R3
AUX-1
AUX-2
AUDIO
+12V
S-SW
H301 SFB-4242
DL
BPF
X302 1H-DL
IN OUT
PHASE1 ADJ.
PHASE2 ADJ.
GAIN1 ADJ.
GAIN2 ADJ.
SUB-BRIGHT ADJ.
X301 SDL-4382
⑬
⑭
* L305
31UX58/27UX58 SHORT
31CX48 22μH
27CX48 10μH
R306 R307
27UX58/27CX48 330 330
31UX58/31CX48 270 390
* C30A
31UX58/27UX58 100P CCSL-J
31CX48/27CX48 82P CCSL-J

• Since this is a basic circuit diagram, the value of the parts is subject
• All DC voltage to be measured with a tester (100kΩ/V). Voltage take

Circuit No.	Pin Nc.	Voltage VDC
I201	1	4.4
	2	6.8
	3	5.6
	4	5.6
	5	4.3
	6	4.0
	7	0.0
	8	4.5
	9	4.5
	10	5.8
	11	8.8
	12	5.6
	13	5.4
	14	8.9
	15	0.0
	16	0.0
	17	0.0
	18	5.0
	19	5.0
	20	5.0
	21	4.0
	22	0.4
	23	0.4
	24	0.0
	25	5.0
	26	5.7
	27	7.6
	28	4.5
	29	7.0
	30	7.6

Circuit No.	Pin No.	Voltage VDC
I201	28	4.5
	29	7.0
	30	7.6
	31	4.4
	32	2.7
	33	5.9
	34	4.3
	35	4.2
	36	4.8
	37	0.0
	38	3.5
	39	7.0
	40	4.8
	41	4.1
	42	4.8
	43	8.9
	44	3.2
	45	3.0
	46	3.0
	47	3.3
	48	3.7
	49	1.9
	50	7.9
	51	7.9
	52	4.8

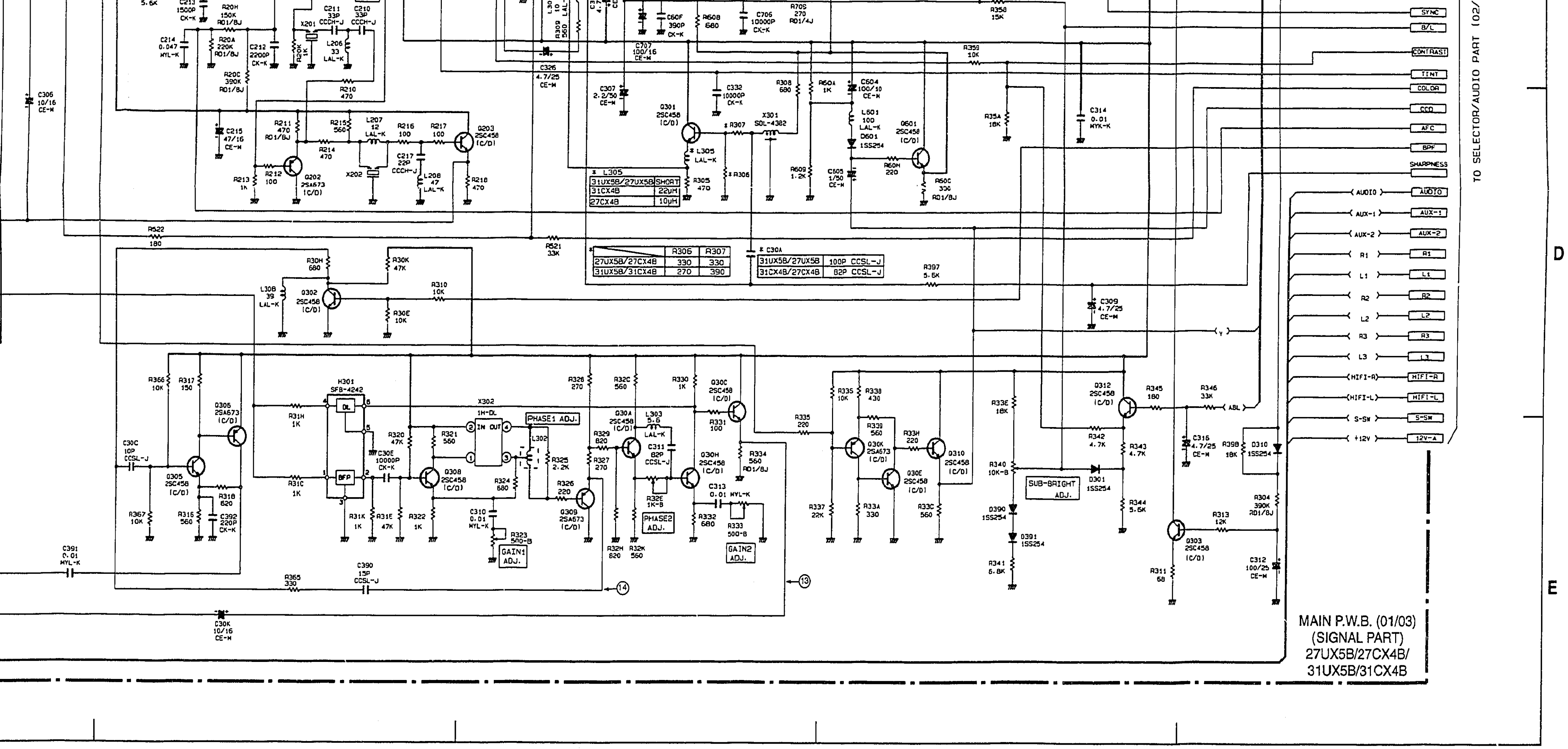
Circuit No.	Pin No.	Voltage VDC
I301	1	2.3
	2	5.0
	3	2.5
	4	0.4
	5	1.7
	6	1.7
	7	0.4
	8	2.5
	9	0.0
	10	2.5

Circuit No.	Pin No.	Voltage VDC
I302	1	6.7
	2	9.4
	3	9.4
	4	3.5
	5	0.0
	6	3.1
	7	11.6
	8	3.1
	9	3.1

Circuit No.	Pin No.	Voltage VDC
Q001	B	0.7
	C	0.0
	E	0.0
Q002	B	0.0
	C	5.0
	E	0.0
Q003	B	0.0
	C	4.2
	E	0.0
Q004	B	5.0
	C	5.0
	E	5.0
Q005	B	0.7
	C	0.0
	E	0.0
Q006	B	0.5
	C	2.0
	E	0.0
Q008	B	0.5
	C	2.8
	E	0.0
Q009	B	0.0
	C	5.0
	E	0.0
Q101	B	2.3
	C	7.5
	E	1.6
Q201	B	4.4
	C	9.0
	E	3.7

Circuit No.	Pin No.	Voltage VDC
Q305	B	4.0
	C	8.0
	E	4.0
Q306	B	8.0
	C	9.0
	E	5.0
Q308	B	4.0
	C	7.0
	E	3.0
Q309	B	3.5
	C	0.0
	E	4.0
Q310	B	5.0
	C	9.0
	E	4.6
Q312	B	10.0
	C	9.0
	E	9.0
Q314	B	4.0
	C	0.0
	E	4.5
Q315	B	4.5
	C	9.0
	E	3.8
Q401	B	12.0
	C	6.5
	E	12.0
Q402	B	2.4
	C	11.0
	E	1.7

Circuit No.	Pin No.	Voltage VDC
Q202	B	3.2
	C	0.0
	E	3.9
Q203	B	6.0
	C	9.0
	E	5.5
Q30A	B	3.0
	C	7.0
	E	2.0
Q30C	B	6.6
	C	9.0
	E	6.0
Q30E	B	0.7
	C	5.0
	E	0.0
Q30H	B	2.3
	C	6.6
	E	1.6
Q30K	B	6.0
	C	0.7
	E	7.0
Q301	B	1.5
	C	9.0
	E	0.5
Q302	B	0.5
	C	0.0
	E	0.0
Q303	B	0.0
	C	2.7
	E	0.0


SYNC
B/L
CONTRAST
TINT
COLOR
CCD
AFC
BPF
SHARPNESS
AUDIO
AUX-1
AUX-2
R1
L1
R2
L2
R3
L3
HIFI-R
HIFI-L
S-SW
12V-A
TO SELECTOR/AUDIO PART (02/
D
E
3
4
5
6
PHASE1 ADJ.
PHASE2 ADJ.
GAIN1 ADJ.
GAIN2 ADJ.
SUB-BRIGHT ADJ.
X302 1H-DL
H301 SFB-4242
X301 SDL-4382
L305 31UX5B/27UX5B SHORT 31CX4B 22μH 27CX4B 10μH
R306 R307 27UX5B/27CX4B 330 330 31UX5B/31CX4B 270 390
C30A 31UX5B/27UX5B 100P CCSL-J 31CX4B/27CX4B 82P CCSL-J

MAIN P.W.B. (01/03)
(SIGNAL PART)
27UX5B/27CX4B/
31UX5B/31CX4B

- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.

Circuit No.	Pin No.	Voltage VDC
I201	28	4.5
	29	7.0
	30	7.6
	31	4.4
	32	2.7
	33	5.9
	34	4.3
	35	4.2
	36	4.8
	37	0.0
	38	3.5
	39	7.0
	40	4.8
	41	4.1
	42	4.8
	43	8.9
	44	3.2
	45	3.0
	46	3.0
	47	3.3
	48	3.7
	49	1.9
	50	7.9
	51	7.9
	52	4.8

Circuit No.	Pin No.	Voltage VDC
I301	1	2.3
	2	5.0
	3	2.5
	4	0.4
	5	1.7
	6	1.7
	7	0.4
	8	2.5
	9	0.0
	10	2.5

Circuit No.	Pin No.	Voltage VDC
I302	1	6.7
	2	9.4
	3	9.4
	4	3.5
	5	0.0
	6	3.1
	7	11.6
	8	3.1
	9	3.1

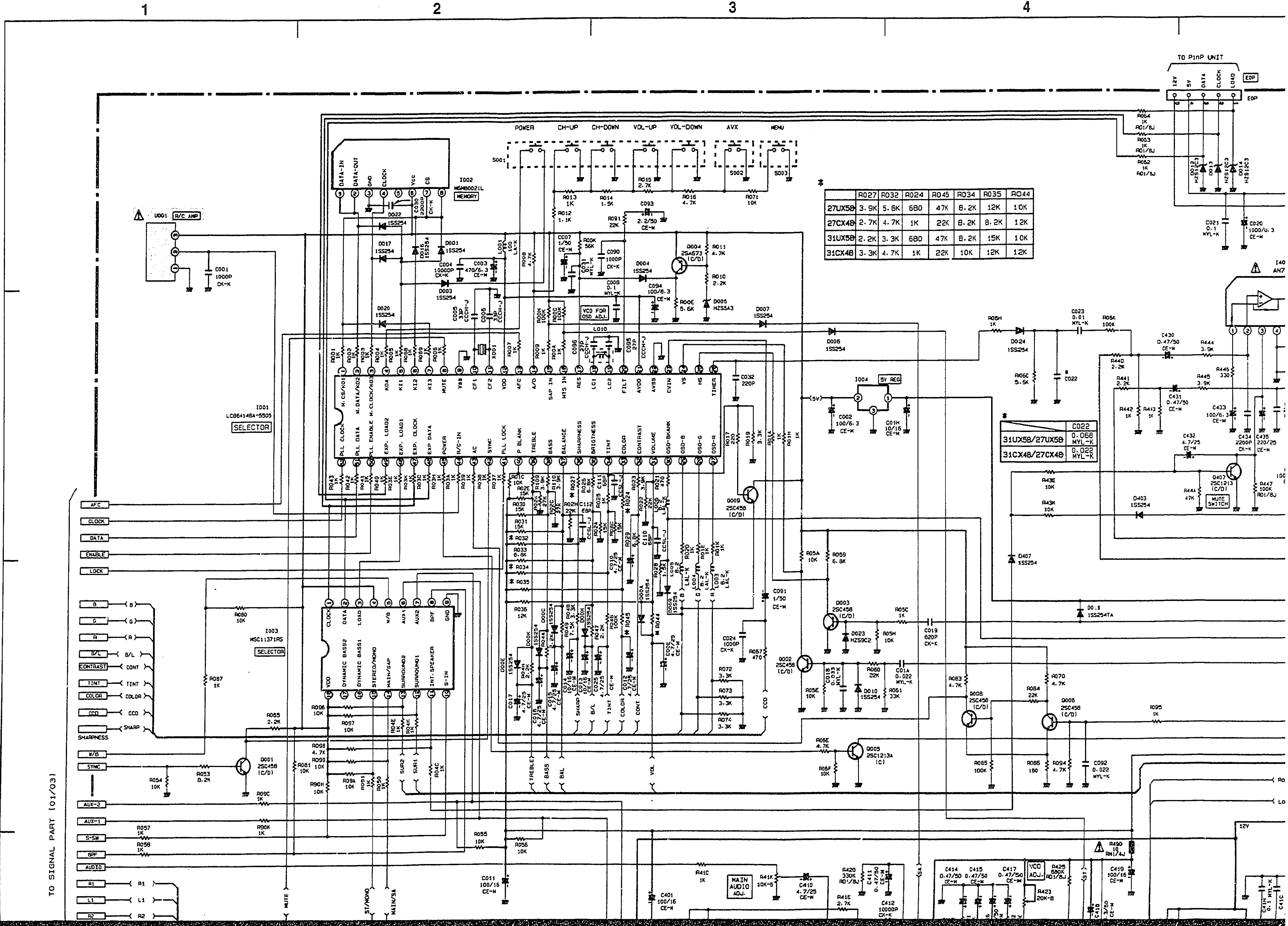
Circuit No.	Pin No.	Voltage VDC
Q001	B	0.7
	C	0.0
	E	0.0
Q002	B	0.0
	C	5.0
	E	0.0
Q003	B	0.0
	C	4.2
	E	0.0
Q004	B	5.0
	C	5.0
	E	5.0
Q005	B	0.7
	C	0.0
	E	0.0
Q006	B	0.5
	C	2.0
	E	0.0
Q008	B	0.5
	C	2.8
	E	0.0
Q009	B	0.0
	C	5.0
	E	0.0
Q101	B	2.3
	C	7.5
	E	1.6
Q201	B	4.4
	C	9.0
	E	3.7

Circuit No.	Pin No.	Voltage VDC
Q305	B	4.0
	C	8.0
	E	4.0
Q306	B	8.0
	C	9.0
	E	5.0
Q308	B	4.0
	C	7.0
	E	3.0
Q309	B	3.5
	C	0.0
	E	4.0
Q310	B	5.0
	C	9.0
	E	4.6
Q312	B	10.0
	C	9.0
	E	9.0
Q314	B	4.0
	C	0.0
	E	4.5
Q315	B	4.5
	C	9.0
	E	3.8
Q401	B	12.0
	C	6.5
	E	12.0
Q402	B	2.4
	C	11.0
	E	1.7

Circuit No.	Pin No.	Voltage VDC
Q202	B	3.2
	C	0.0
	E	3.9
Q203	B	6.0
	C	9.0
	E	5.5
Q30A	B	3.0
	C	7.0
	E	2.0
Q30C	B	6.6
	C	9.0
	E	6.0
Q30E	B	0.7
	C	5.0
	E	0.0
Q30H	B	2.3
	C	6.6
	E	1.6
Q30K	B	6.0
	C	0.7
	E	7.0
Q301	B	1.5
	C	9.0
	E	0.5
Q302	B	0.5
	C	0.0
	E	0.0
Q303	B	0.0
	C	2.7
	E	0.0

PRODUCT SAFETY NOTE
any of these components, r
through improper servicing.

CIRCUIT SCHEMATIC DIAGRAM OF 27UX5B/C745, 27CX4B/C744, 31UX5B/CY45, 31CX4B/CY44


1
2
3
4
A
B
C
TO PinP UNIT
I001
LC864148A-5505
SELECTOR
I002
MSM6002IL
MEMORY
I003
MSC1137IRS
SELECTOR
I004
5V REG
U001 R/C AMP
POWER
CH-UP
CH-DOWN
VOL-UP
VOL-DOWN
AVX
MENU
S001
S002
S003
VCO FOR OSD ADJ.
MAIN AUDIO ADJ.
VCO ADJ.
MUTE SWITCH
TO SIGNAL PART (01/03)
AFC
CLOCK
DATA
ENABLE
LOCK
B
G
R
B/L
CONTRAST
TINT
COLOR
CCD
SHARPNESS
W/B
SYNC
AUX-2
AUX-1
S-SW
BPF
AUDIO
R1
L1
R2

*

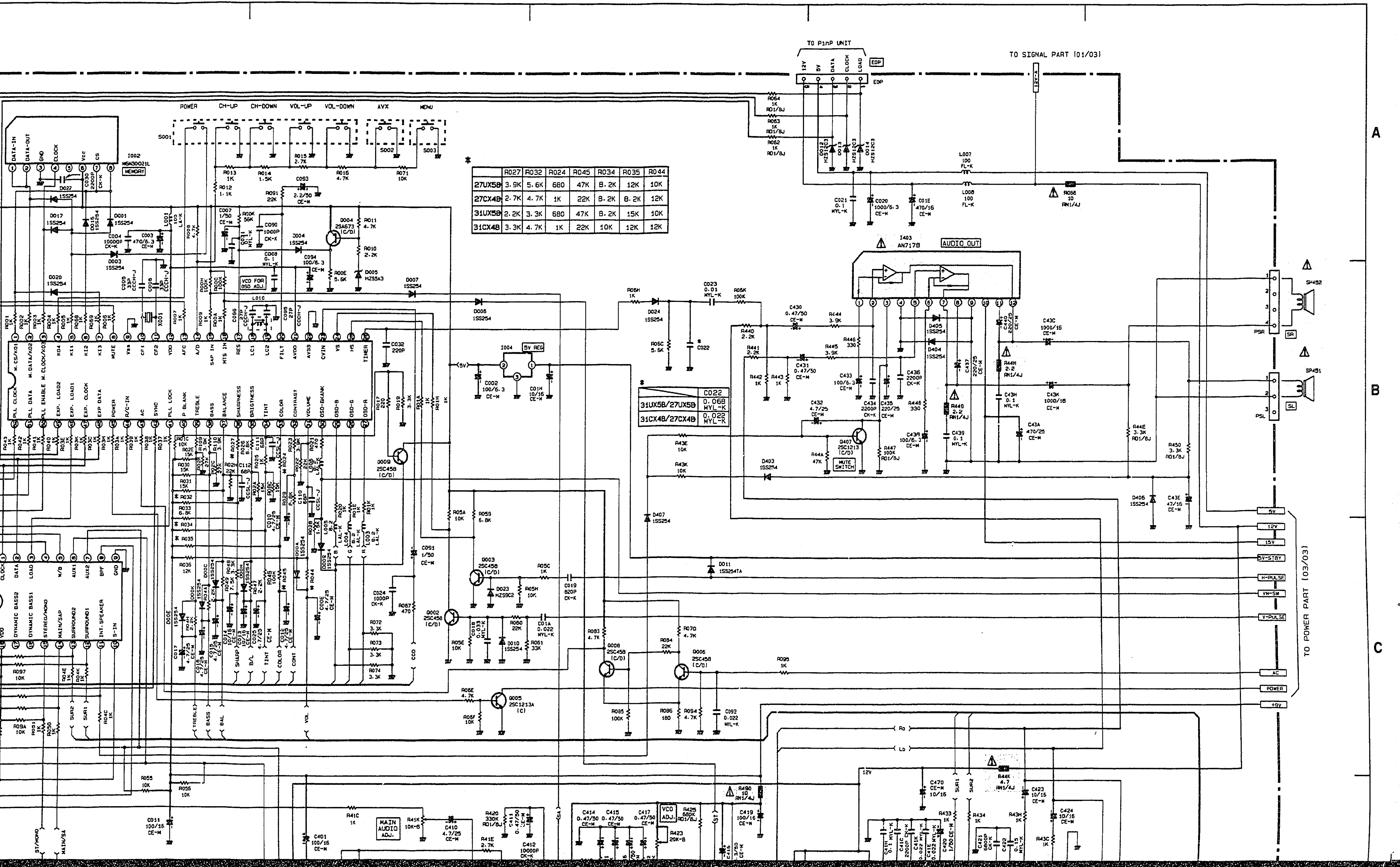
	R027	R032	R024	R045	R034	R035	R044
27UX5B	3.9K	5.6K	680	47K	8.2K	12K	10K
27CX4B	2.7K	4.7K	1K	22K	8.2K	8.2K	12K
31UX5B	2.2K	3.3K	680	47K	8.2K	15K	10K
31CX4B	3.3K	4.7K	1K	22K	10K	12K	12K

*

	C022
31UX5B/27UX5B	0.068 MYL-K
31CX4B/27CX4B	0.022 MYL-K

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

CIRCUIT SCHEMATIC DIAGRAM OF 27UX5B/C745, 27CX4B/C744, 31UX5B/CY45, 31CX4B/CY44

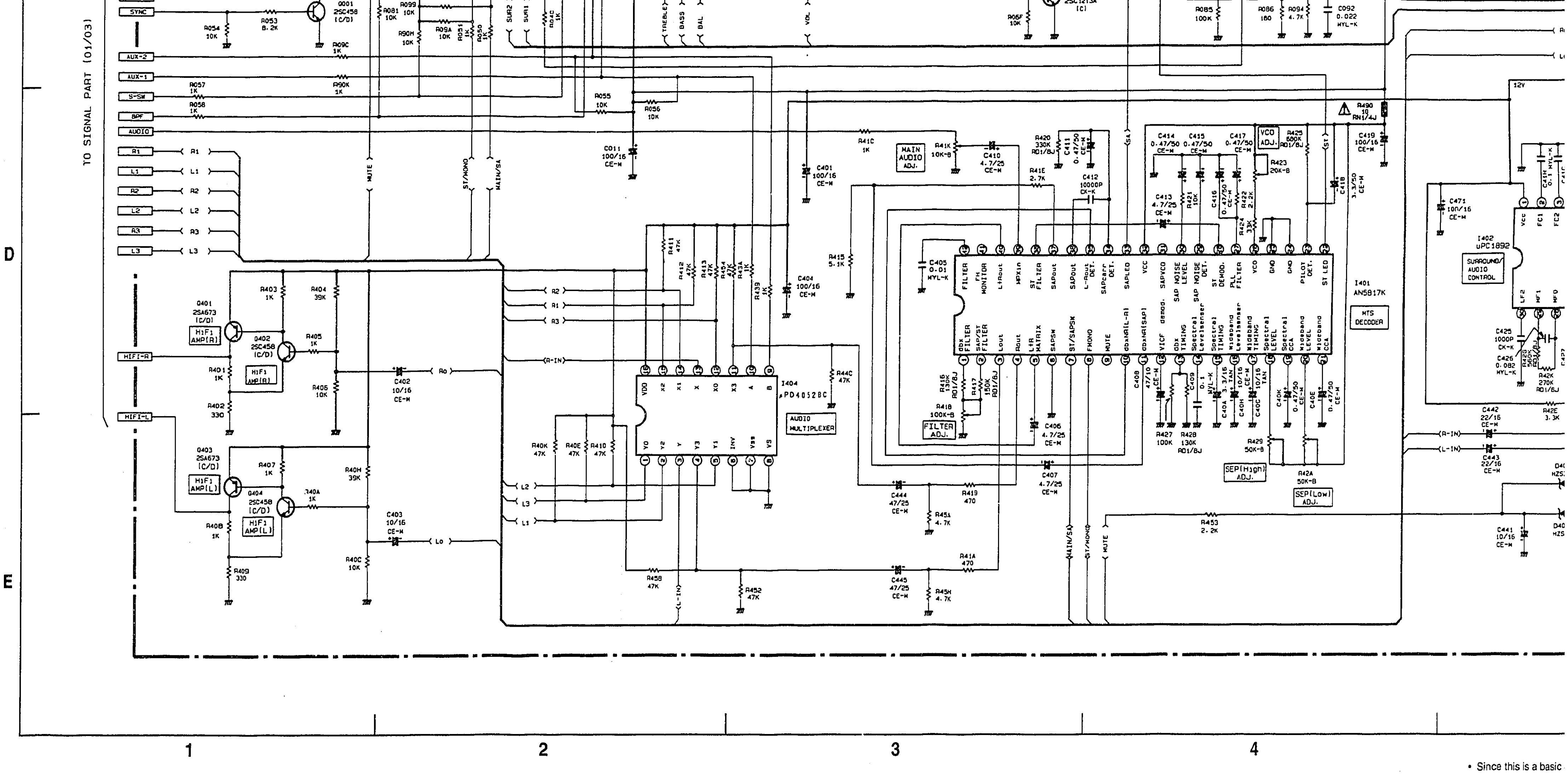

2
3
4
5
6
A
B
C
TO PinP UNIT
12V
5V
DATA
CLOCK
LOAD
EDP
TO SIGNAL PART (01/03)
12V-A
POWER
CH-UP
CH-DOWN
VOL-UP
VOL-DOWN
AVX
MENU
S001
S002
S003
I002
MSM30021L
MEMORY
DATA-IN
DATA-OUT
GND
CLOCK
Vcc
CS
I004
5V REG
(5V)
VCO FOR OSD ADJ.
I403
AN7178
AUDIO OUT
MUTE SWITCH
SP452
SP451
PSR
PSL
SR
SL
5V
12V
15V
5V-STBY
H-PULSE
VH-SW
V-PULSE
AC
POWER
+9V
TO POWER PART (03/03)
MAIN AUDIO ADJ.
VCO ADJ.
Ro
Lo
TREBLE
BASS
BAL
VOL
SHARP
B/L
TINT
COLOR
CONT
ST/MONO
MAIN/SA
DYNAMIC BASS2
DYNAMIC BASS1
STEREO/MONO
MAIN/SAP
SURROUND2
SURROUND1
INT.SPEAKER
S-IN
PLL CLOCK
PLL DATA
PLL ENABLE
EXP. LOAD2
EXP. LOAD1
EXP. CLOCK
EXP DATA
POWER
A/C-IN
AC
SYNC
PLL LOCK
P BLANK
TREBLE
BASS
BALANCE
SHARPNESS
BRIGHTNESS
TINT
COLOR
CONTRAST
VOLUME
OSD-BKANK
OSD-B
OSD-G
OSD-R
M.CS/K01
M.DATA/K02
M.CLOCK/K03
K04
KI1
KI2
KI3
MUTE
Vss
CF1
CF2
VDD
AFC
A/D
SAP IN
MTS IN
RES
LC1
LC2
FILT
AVDD
AVSS
CVIN
VS
HS
TIMER
Q004 2SA673 (C/D)
Q009 2SC458 (C/D)
Q003 2SC458 (C/D)
Q002 2SC458 (C/D)
Q005 2SC1213A (C)
Q008 2SC458 (C/D)
Q006 2SC458 (C/D)
Q407 2SC1213 (C/D)
D005 HZS5A3
D023 HZS9C2
D011 1SS254TA
L007 100 FL-K
L008 100 FL-K
R066 10 RN1/4J
R44H 2.2 RN1/4J
R449 2.2 RN1/4J
R490 10 RN1/4J
R44K 4.7 RN1/4J

*

	R027	R032	R024	R045	R034	R035	R044
27UX5B	3.9K	5.6K	680	47K	8.2K	12K	10K
27CX4B	2.7K	4.7K	1K	22K	8.2K	8.2K	12K
31UX5B	2.2K	3.3K	680	47K	8.2K	15K	10K
31CX4B	3.3K	4.7K	1K	22K	10K	12K	12K

*

	C022
31UX5B/27UX5B	0.068 MYL-K
31CX4B/27CX4B	0.022 MYL-K


TO SIGNAL PART (01/03)
SYNC
AUX-2
AUX-1
S-SW
BPF
AUDIO
HIFI-R
HIFI-L
Q401 2SA673 (C/D) HiFi AMP(R)
Q402 2SC458 (C/D) HiFi AMP(R)
Q403 2SA673 (C/D) HiFi AMP(L)
Q404 2SC458 (C/D) HiFi AMP(L)
Q001 2SC458 (C/D)
MUTE
ST/MONO
MAIN/SA
I404 µPD4052BC AUDIO MULTIPLEXER
MAIN AUDIO ADJ.
FILTER ADJ.
VCO ADJ.
SEP(High) ADJ.
SEP(Low) ADJ.
I401 AN5817K MTS DECODER
I402 uPC1892 SURROUND/AUDIO CONTROL
12V
D
E
1
2
3
4

- Since this is a basic
- All DC voltage to be

Circuit No.	Pin No.	Voltage VDC
I001	1	5.0
	2	5.0
	3	5.0
	4	5.0
	5	12mv
	6	12mv
	7	12mv
	8	-3mv
	9	0.0
	10	2.5
	11	2.5
	12	5.0
	13	2.2
	14	5.0
	15	0.5
	16	0.5
	17	5.0
	18	2.3
	19	2.3
	20	2.5
	21	5.0
	22	0.0
	23	3.0
	24	5.0
	25	4.2
	26	0.0
	27	0.0

Circuit No.	Pin No.	Voltage VDC
I001	28	0.0
	29	0.0
	30	0.0
	31	42mv
	32	7.0
	33	4.4
	34	3.0
	35	2.3
	36	4.1
	37	1.5
	38	1.8
	39	1.8
	40	47mv
	41	120mv
	42	85mv
	43	2.3
	44	5.0
	45	5.0
	46	5.0
	47	0.3
	48	2.5mv
	49	5mv
	50	180mv
	51	5.0
	52	5.0

Circuit No.	Pin No.	Voltage VDC
I002	1	5.0
	2	5.0
	3	0.0
	4	5.0
	5	5.0
	6	5.0
	7	5.0
	8	5.0

Circuit No.	Pin No.	Voltage VDC
I003	1	0.3
	2	5.0
	3	2.4mv
	4	5.0
	5	1.5mv
	6	9.5
	7	9.5
	8	0.0
	9	0.0
	10	1.2mv
	11	3.5mv
	12	0.0
	13	0.0
	14	5.0
	15	3.5
	16	—
	17	—
	18	5.0

Circuit No.	Pin No.	Voltage VDC
I004	1	15.0
	2	5.0
	3	0.0

Circuit No.	Pin No.	Voltage VDC
I403	1	5.3
	2	9.9
	3	15.0
	4	0.0
	5	10.5
	6	5.8
	7	1.3
	8	0.0
	9	0.0
	10	12.0
	11	0.0
	12	1.3

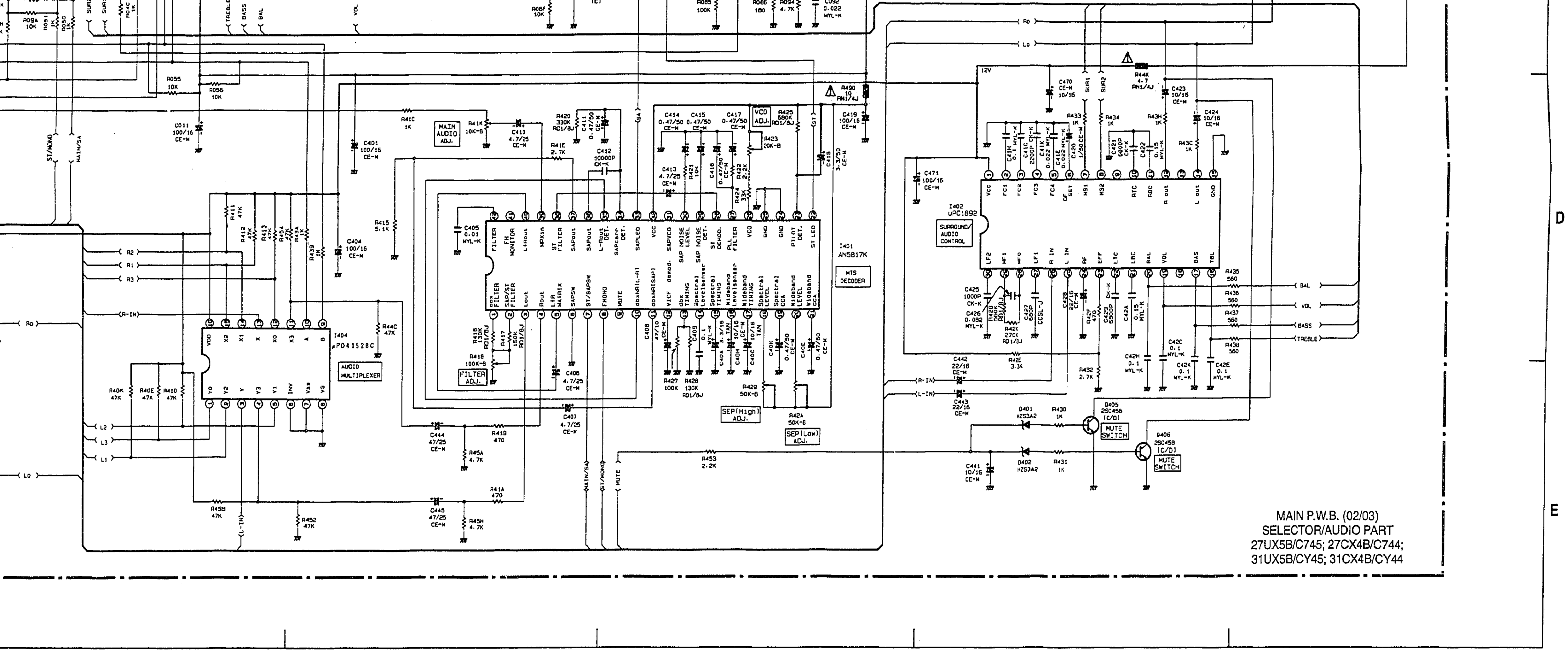
Circuit No.	Pin No.	Voltage VDC
I401	1	1.2
	2	1.2
	3	5.0
	4	5.0
	5	5.0
	6	0.0
	7	5.0
	8	3.5
	9	—
	10	4.5
	11	5.0
	12	5.0
	13	1.2
	14	5.0
	15	0.3
	16	5.0
	17	0.6
	18	8.0
	19	5.0
	20	8.0
	21	5.0
	22	0.0
	23	7.0
	24	0.0
	25	0.0
	26	8.3
	27	5.0
	28	5.0

Circuit No.	Pin No.	Voltage VDC
I401	29	3.0
	30	3.0
	31	—
	32	9.5
	33	0.0
	34	3.8
	35	4.5
	36	0.5
	37	3.8
	38	4.2
	39	5.0
	40	4.0
	41	—
	42	5.0

Circuit No.	Pin No.	Voltage VDC
I402	1	12.0
	2	6.0
	3	6.0
	4	6.0
	5	6.0
	6	6.0
	7	0.0
	8	0.0
	9	6.0
	10	6.0
	11	6.0
	12	6.0

Circuit No.	Pin No.	Voltage VDC
I402	13	—
	14	6.0
	15	0.0
	16	3.0
	17	3.0
	18	—
	19	0.0
	20	2.2
	21	6.0
	22	6.0
	23	5.2
	24	6.0
	25	6.0
	26	6.0
	27	6.0
	28	6.0
	29	6.0
	30	6.0

Circuit No.
I404


I401
AN5817K
MTS DECODER
I402
uPC1892
SURROUND/AUDIO CONTROL
I404
µPD4052BC
AUDIO MULTIPLEXER
MAIN AUDIO ADJ.
VCO ADJ.
FILTER ADJ.
SEP(High) ADJ.
SEP(Low) ADJ.
Q405
2SC458
(C/D)
MUTE SWITCH
Q406
2SC458
(C/D)
MUTE SWITCH
D401
HZS3A2
D402
HZS3A2
Ro
Lo
R-IN
L-IN
R1
R2
R3
L1
L2
L3
BAL
VOL
BASS
TREBLE
ST/MONO
MAIN/SA
MUTE
12V
2
3
4
5
6
D
E

MAIN P.W.B. (02/03)
SELECTOR/AUDIO PART
27UX5B/C745; 27CX4B/C744;
31UX5B/CY45; 31CX4B/CY44

- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.

Pin No.	Voltage VDC
1	5.0
2	5.0
3	5.0
4	5.0
5	12mv
6	12mv
7	12mv
8	-3mv
9	0.0
10	2.5
11	2.5
12	5.0
13	2.2
14	5.0
15	0.5
16	0.5
17	5.0
18	2.3
19	2.3
20	2.5
21	5.0
22	0.0
23	3.0
24	5.0
25	4.2
26	0.0
27	0.0

Circuit No.	Pin No.	Voltage VDC
I001	28	0.0
	29	0.0
	30	0.0
	31	42mv
	32	7.0
	33	4.4
	34	3.0
	35	2.3
	36	4.1
	37	1.5
	38	1.8
	39	1.8
	40	47mv
	41	120mv
	42	85mv
	43	2.3
	44	5.0
	45	5.0
	46	5.0
	47	0.3
	48	2.5mv
	49	5mv
	50	180mv
	51	5.0
	52	5.0

Circuit No.	Pin No.	Voltage VDC
I002	1	5.0
	2	5.0
	3	0.0
	4	5.0
	5	5.0
	6	5.0
	7	5.0
	8	5.0

Circuit No.	Pin No.	Voltage VDC
I003	1	0.3
	2	5.0
	3	2.4mv
	4	5.0
	5	1.5mv
	6	9.5
	7	9.5
	8	0.0
	9	0.0
	10	1.2mv
	11	3.5mv
	12	0.0
	13	0.0
	14	5.0
	15	3.5
	16	—
	17	—
	18	5.0

Circuit No.	Pin No.	Voltage VDC
I004	1	15.0
	2	5.0
	3	0.0

Circuit No.	Pin No.	Voltage VDC
I403	1	5.3
	2	9.9
	3	15.0
	4	0.0
	5	10.5
	6	5.8
	7	1.3
	8	0.0
	9	0.0
	10	12.0
	11	0.0
	12	1.3

Circuit No.	Pin No.	Voltage VDC
I401	1	1.2
	2	1.2
	3	5.0
	4	5.0
	5	5.0
	6	0.0
	7	5.0
	8	3.5
	9	—
	10	4.5
	11	5.0
	12	5.0
	13	1.2
	14	5.0
	15	0.3
	16	5.0
	17	0.6
	18	8.0
	19	5.0
	20	8.0
	21	5.0
	22	0.0
	23	7.0
	24	0.0
	25	0.0
	26	8.3
	27	5.0
	28	5.0

Circuit No.	Pin No.	Voltage VDC
I401	29	3.0
	30	3.0
	31	—
	32	9.5
	33	0.0
	34	3.8
	35	4.5
	36	0.5
	37	3.8
	38	4.2
	39	5.0
	40	4.0
	41	—
	42	5.0

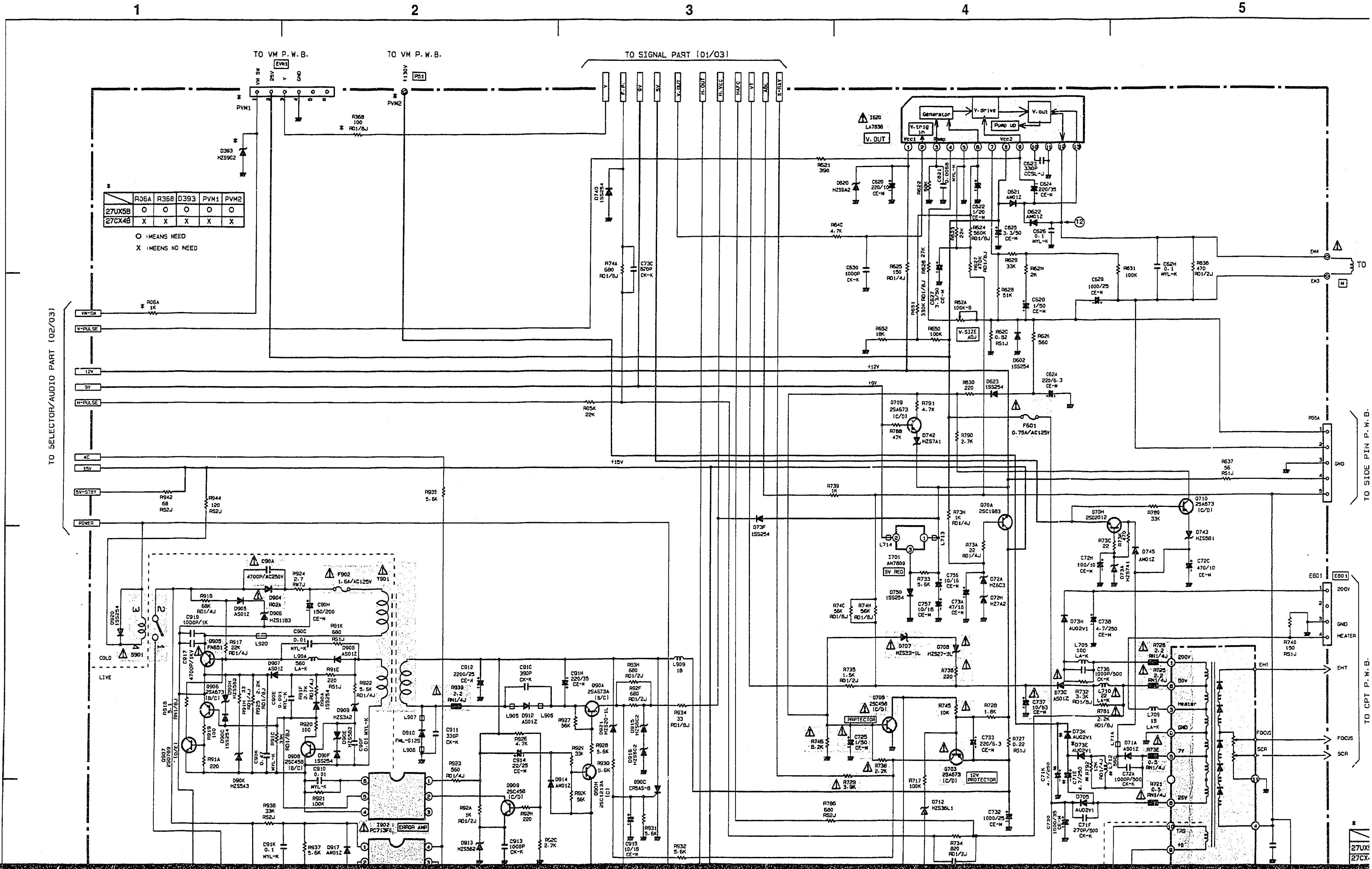
Circuit No.	Pin No.	Voltage VDC
I402	1	12.0
	2	6.0
	3	6.0
	4	6.0
	5	6.0
	6	6.0
	7	0.0
	8	0.0
	9	6.0
	10	6.0
	11	6.0
	12	6.0

Circuit No.	Pin No.	Voltage VDC
I402	13	—
	14	6.0
	15	0.0
	16	3.0
	17	3.0
	18	—
	19	0.0
	20	2.2
	21	6.0
	22	6.0
	23	5.2
	24	6.0
	25	6.0
	26	6.0
	27	6.0
	28	6.0
	29	6.0
	30	6.0

Circuit No.	Pin No.	Voltage VDC
I404	1	6.0
	2	6.0
	3	6.0
	4	6.0
	5	6.0
	6	0.0
	7	0.0
	8	0.0
	9	9.5
	10	9.5
	11	6.0
	12	6.0
	13	6.0
	14	6.0
	15	6.0
	16	12.0

CIRCUIT SCHEMATIC DIAGRAM OF 27UX5B/C745, 27CX4B/C744

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded h
any of these components, read carefully the PRODUCT SAFETY NOTICE
through improper servicing.

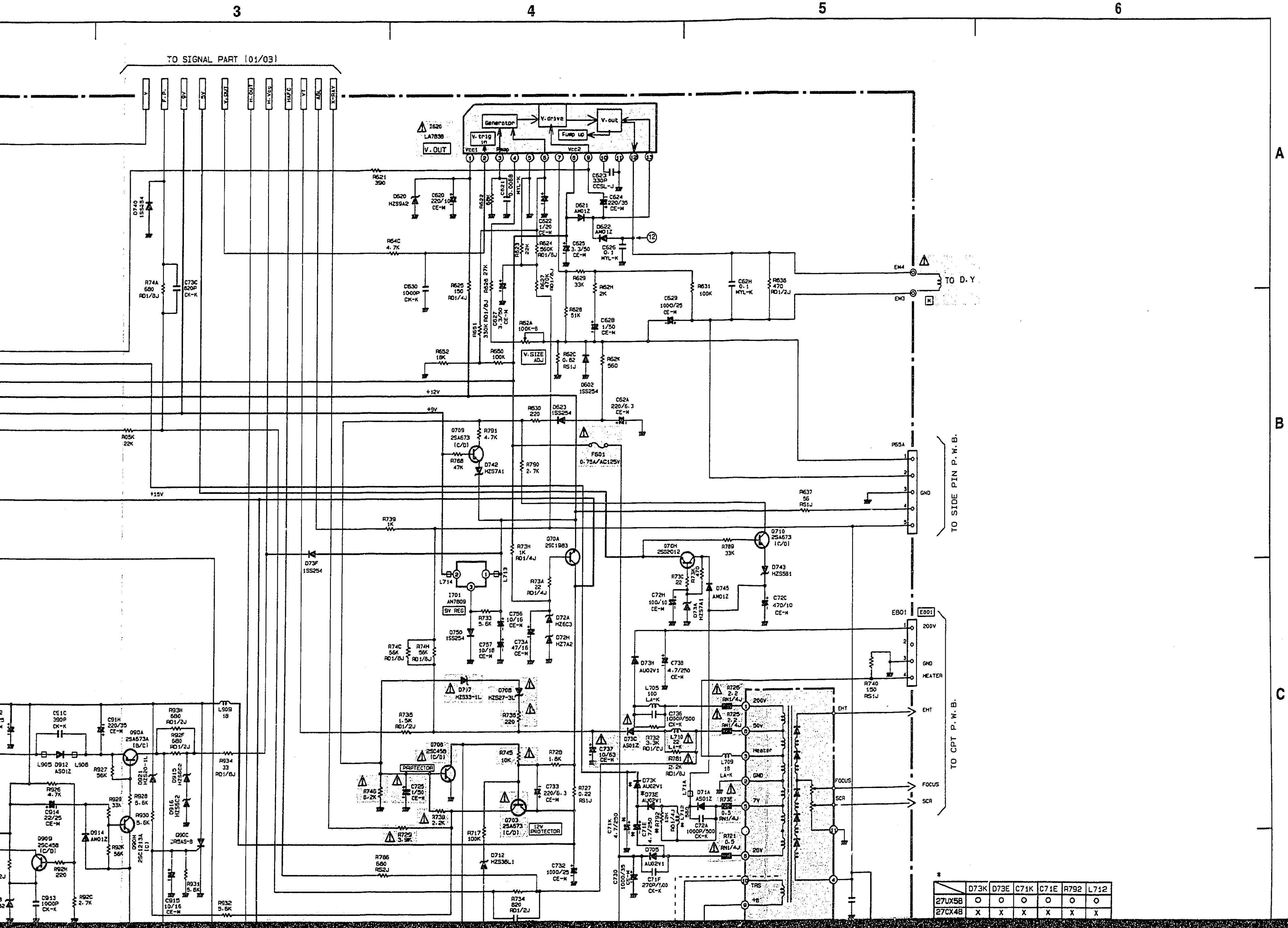

1
2
3
4
5
A
B
C
TO VM P.W.B.
EVM1
VM SW
25V
Y
GND
PVM1
TO VM P.W.B.
+130V
P51
PVM2
R368 100 RD1/8J
D393 HZS9C2
TO SIGNAL PART (01/03)
Y
F.P.
9V
5V
V.OUT
H.OUT
H.Vcc
HAFC
VI
ABL
X-RAY
I620 LA7838
V.OUT
Generator
V-drive
V.out
V.trig in
Ramp
Pump up
Vcc1
Vcc2
R621 390
D620 HZS9A2
C620 220/10 CE-M
R622 68K
C621 0.0068 MYL-K
C623 330P CCSL-J
C624 220/35 CE-M
D621 AM01Z
D622 AM01Z
C622 1/20 CE-M
R624 560K RD1/8J
C625 3.3/50 CE-M
C626 0.1 MYL-K
R64C 4.7K
R633 22K
R627 470K RD1/8J
R629 33K
R62H 2K
R631 100K
C62H 0.1 MYL-K
R636 470 RD1/2J
C629 1000/25 CE-M
C630 1000P CK-K
R625 150 RD1/4J
R626 27K
R651 330K RD1/8J
C627 3.3/50 CE-M
R628 51K
C628 1/50 CE-M
R62A 100K-B
V.SIZE ADJ
R652 18K
R650 100K
R62C 0.82 RS1J
D602 1SS254
R62K 560
D740 1SS254
R74A 680 RD1/8J
C73C 820P CK-K
TO SELECTOR/AUDIO PART (02/03)
VM-SW
V-PULSE
12V
9V
H-PULSE
AC
15V
5V-STBY
POWER
R06A 1K
R05K 22K
+12V
+9V
+15V
R630 220
D623 1SS254
C62A 220/6.3 CE-M
F601 0.75A/AC125V
D709 2SA673 (C/D)
R791 4.7K
R788 47K
D742 HZS7A1
R790 2.7K
P65A
GND
TO SIDE PIN P.W.B.
R637 56 RS1J
R739 1K
D73F 1SS254
R73H 1K RD1/4J
D70A 2SC1983
L714
L713
I701 AN7809
8V REG
R73A 22 RD1/4J
R733 5.6K
D750 1SS254
C757 10/16 CE-M
C756 10/16 CE-M
C73A 47/16 CE-M
D72A HZ6C3
D72H HZ7A2
R74C 56K RD1/8J
R74H 56K RD1/8J
D707 HZS39-1L
D708 HZS27-3L
R735 1.5K RD1/2J
R736 220
D70H 2SD2012
R789 33K
R73C 22
R73K 470
D745 AM01Z
D710 2SA673 (C/D)
D743 HZS5B1
C72H 100/10 CE-M
D73A HZS7A1
C72C 470/10 CE-M
E601
200V
GND
HEATER
R740 150 RS1J
EHT
TO CPT P.W.B.
FOCUS
SCR
D73H AU02V1
C738 4.7/250 CE-M
L705 100 LA-K
C736 1000P/500 CK-K
R726 2.2 RN1/4J
R725 2.2 RN1/4J
200V
50V
Heater
GND
7V
25V
D73C AS01Z
R732 3.3K RD1/8J
L710 22 LA-K
C737 10/63 CE-M
R781 2.2K RD1/8J
L709 15 LA-K
D73K AU02V1
C71E 4.7/250
D73E AU02V1
R792 12K RD1/4J
L71A 1.2
D71A AS01Z
R73E 0.5 RN1/4J
C72A 1000P/500 CK-K
R721 0.5 RN1/4J
D705 AU02V1
C71F 270P/500 CK-K
C71K 4.7/250
C730 1000/35 CE-M
T25
D706 2SC458 (C/D)
PROTECTOR
R745 10K
R728 1.8K
C733 220/6.3 CE-M
R727 0.22 RS1J
R746 8.2K
C725 1/50 CE-M
R738 2.2K
R729 3.9K
D703 2SA673 (C/D)
12V PROTECTOR
R717 100K
D712 HZS36L1
R786 680 RS2J
C732 1000/25 CE-M
R734 820 RD1/2J
R942 68 RS2J
R944 120 RS2J
R935 5.6K
D920 1SS254
S901
COLD
LIVE
C90A 4700P/AC250V
R924 2.7 RW7J
F902 1.6A/AC125V
T901
R915 68K RD1/4J
D904 RO2A
D905 AS01Z
D906 HZS11B3
C90H 150/200 CE-M
C919 1000P/1K
C90C 0.01
R91K 680 RS1J
D905 FN651
R917 22K RD1/4J
L920
C917 4700P/1KV
D907 AS01Z
L90A 560 LA-K
D900 AS01Z
R91E 220 RS1J
R922 5.6K RD1/4J
D906 2SA673 (B/C)
D90H HZS5B2
R91H 33 RD1/4J
R925 2.2K
C90E 0.001 MYL-K
R91F 2.7K RD1/4J
D90A 1SS254
D909 HZS3A2
R920 100
R918 5.1 RN1/4J
R919 100
D90C 1SS254
D90K HZS5A3
R91C 33K RD1/8J
C90K 0.1 MYL-K
D908 2SC458 (B/C)
D90E 1SS254
D90B HZS5B2
C90F 0.01 MYL-K
D907 2SD709 (D/E)
R91A 220
C910 0.01 MYL-K
R921 100K
R938 33K RS2J
I902 PC713F6
ERROR AMP
C91K 0.1 MYL-K
R937 5.6K
D917 AM01Z
C912 2200/25 CE-M
C91C 390P CK-K
C91H 220/35 CE-M
D90A 2SA673A (B/C)
R939 2.2 RN1/4J
L907
D910 FML-G12S
L908
C911 330P CK-K
L905
D912 AS01Z
L906
R926 4.7K
C914 22/25 CE-M
R927 56K
R92H 33K
D921 HZS20-1L
R928 5.6K
R930 5.6K
R923 560 RD1/4J
D914 AM01Z
R92K 56K
D909 2SC458 (C/D)
R92A 1K RD1/2J
R92H 220
D913 HZS5B2
C913 1000P CK-K
R92C 2.7K
R93H 680 RD1/2J
R92F 680 RD1/2J
D915 HZS6C2
D916 HZS6C2
D90H 2SC1213A (C)
D90C CR5AS-8
C915 10/16 CE-M
R931 5.6K
L909 18
R934 33 RD1/8J
R932 5.6K
EM4
EM3
TO
M

*	R06A	R368	D393	PVM1	PVM2
27UX5B	O	O	O	O	O
27CX4B	X	X	X	X	X

O :MEANS NEED
X :MEENS NO NEED

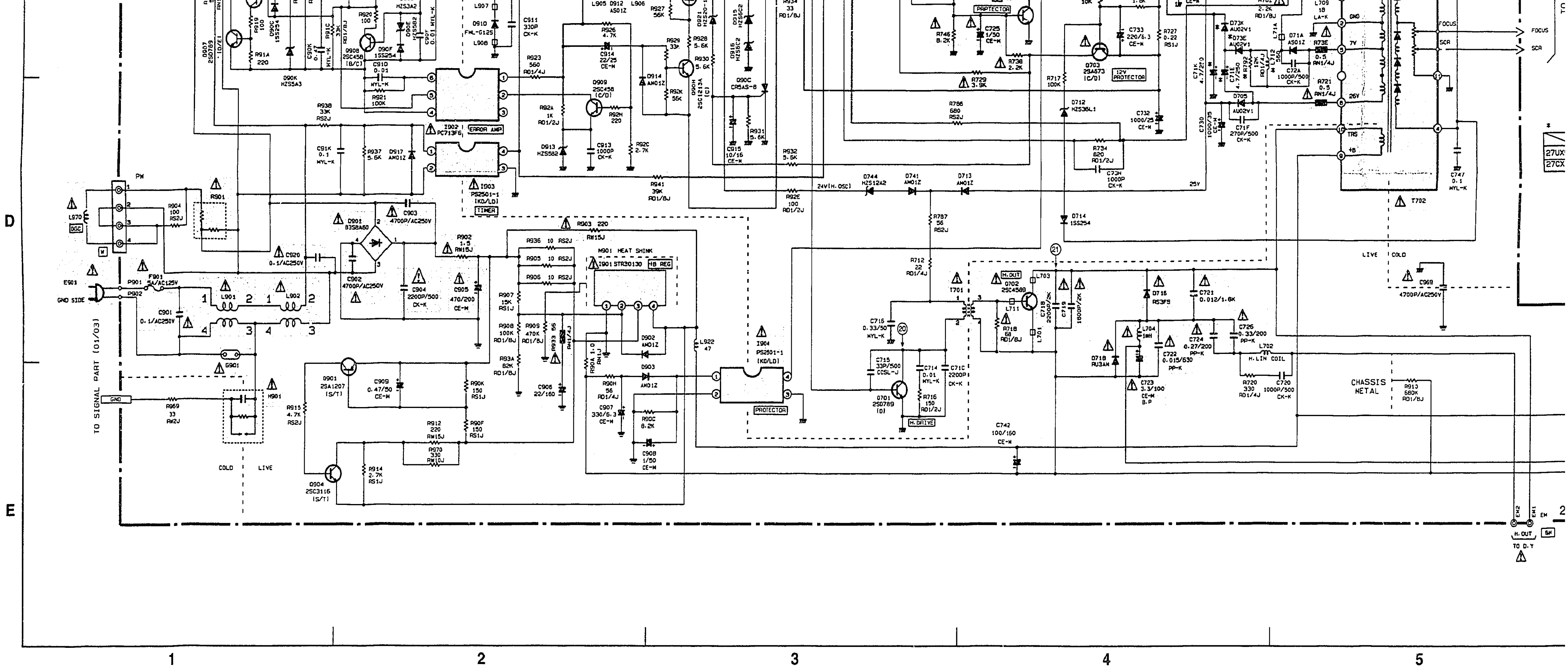
CIRCUIT SCHEMATIC DIAGRAM OF 27UX5B/C745, 27CX4B/C744

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.


3
4
5
6
A
B
C
TO SIGNAL PART (01/03)
Y
F.P.
9V
5V
V.OUT
H.OUT
H.Vcc
HAFC
YI
ABL
X-RAY
I620
LA7838
V.OUT
Generator
V.drive
V.out
V.trig in
Pump up
Vcc1
Ramp
Vcc2
R621 390
D620 HZS9A2
C620 220/10 CE-M
C623 330P CCSL-J
C624 220/35 CE-M
D621 AM01Z
D622 AM01Z
C622 1/20 CE-M
C625 3.3/50 CE-M
C626 0.1 MYL-K
R624 560K RD1/8J
R633 22K
R629 33K
R62H 2K
R628 51K
C628 1/50 CE-M
C629 1000/25 CE-M
R631 100K
C62H 0.1 MYL-K
R636 470 RD1/2J
EM4
EM3
TO D.Y
D740 1SS254
R64C 4.7K
R74A 680 RD1/8J
C73C 820P CK-K
C630 1000P CK-K
R625 150 RD1/4J
R626 27K
R651 330K RD1/8J
C627 3.3/50 CE-M
R62A 100K-B
V.SIZE ADJ
R652 18K
R650 100K
R62C 0.82 RS1J
R62K 560
D602 1SS254
+12V
+9V
R630 220
D623 1SS254
C62A 220/6.3 CE-M
F601 0.75A/AC125V
Q709 2SA673 (C/D)
R791 4.7K
R788 47K
D742 HZS7A1
R790 2.7K
R65K 22K
+15V
P65A
GND
R637 56 RS1J
TO SIDE PIN P.W.B.
R739 1K
D73F 1SS254
Q710 2SA673 (C/D)
R789 33K
Q70A 2SC1983
R73H 1K RD1/4J
Q7CH 2SD2012
D743 HZS5B1
L714
L713
I701 AN7809
9V REG
R73A 22 RD1/4J
R73C 22
R73D 470
D745 AM01Z
C72H 100/10 CE-M
D73A HZS7A1
C72C 470/10 CE-M
E801
200V
GND
HEATER
R733 5.6K
C756 10/16 CE-M
D72A HZ6C3
D72H HZ7A2
D750 1SS254
C757 10/16 CE-M
C73A 47/16 CE-M
R74C 56K RD1/8J
R74H 56K RD1/8J
D73H AU02V1
C738 4.7/250 CE-M
R740 150 RS1J
D707 HZS33-1L
D708 HZS27-3L
R736 220
R735 1.5K RD1/2J
L705 100 LA-K
C736 1000P/500 CK-K
R726 2.2 RN1/4J
R725 2.2 RN1/4J
200V
50V
Heater
GND
7V
26V
EHT
FOCUS
SCR
TO CPT P.W.B.
Q706 2SC458 (C/D)
PROTECTOR
R745 10K
R728 1.8K
D73C AS01Z
R732 3.3K RD1/CJ
L710 22 LA-K
C737 10/63 CE-M
R781 2.2K RD1/8J
L709 18 LA-K
R746 8.2K
C725 1/50 CE-M
R738 2.2K
R729 3.9K
C733 220/6.3 CE-M
R727 0.22 RS1J
Q703 2SA673 (C/D)
12V PROTECTOR
R717 100K
D73K AU02V1
D73E AU02V1
C71K 4.7/250
C71E 4.7/250
R792 12K
L71A
L712
D71A AS01Z
R73E 0.5 RN1/4J
C72A 1000P/500 CK-K
R721 0.5 RN1/4J
D705 AU02V1
C71F 270P/1.00 CK-K
C730 1000/35
T85
+B
D712 HZS36L1
C732 1000/25 CE-M
R786 680 RS2J
R734 820 RD1/2J
C91C 390P CK-K
C91H 220/35 CE-M
Q90A 2SA673A (B/C)
R93H 680 RD1/2J
R92F 680 RD1/2J
L909 18
R934 33 RD1/8J
L905
D912 AS01Z
L906
R927 56K
D921 HZS20-1L
D913 HZS6C2
R926 4.7K
D914 22/25 CE-M
R929 33K
R928 5.6K
R930 5.6K
D916 HZS6C2
D914 AM01Z
Q909 2SC458 (C/D)
R93K 56K
Q90H 2SC1213A (C)
Q90C CR5AS-8
R92H 220
C913 1000P CK-K
R92C 2.7K
C915 10/16 CE-M
R931 5.6K
R932 5.6K

*

	D73K	D73E	C71K	C71E	R792	L712
27UX5B	○	○	○	○	○	○
27CX4B	X	X	X	X	X	X


D
E
1
2
3
4
5
TO SIGNAL PART (01/03)
GND SIDE
E901
P901
P902
F901 5A/AC125V
L970 DGC
PW
RS01
R904 100 RS2J
C920 0.1/AC250V
D901 D3SBA60
C903 4700P/AC250V
C902 4700P/AC250V
C904 2200P/500 CK-K
C905 470/200 CE-M
L901
L902
C901 0.1/AC250V
G901
M901
R969 33 RW2J
COLD
LIVE
I902 PC713F6
ERROR AMP
I903 PS2501-1 (KO/LO)
TIMER
R903 220 RW15J
M901 HEAT SHINK
I901 STR30130
+B REG
Q901 2SA1207 (S/T)
Q904 2SC3116 (S/T)
I904 PS2501-1 (KO/LO)
PROTECTOR
L922 47
24V(H.OSC)
D744 HZS12A2
D741 AM01Z
D713 AM01Z
T701
Q702 2SC4589
H.OUT
Q701 2SD789 (O)
H.DRIVE
C742 100/160 CE-M
D718 RU3AM
L704 1mH
L702 H.LIN COIL
C720 1000P/500 CK-K
R720 330 RD1/4J
D716 RS3FS
C721 0.012/1.6K
C726 0.33/200 PP-K
C724 0.27/200 PP-K
C722 0.015/630 PP-K
C723 3.3/100 CE-M B.P
Q703 2SA673 (C/D)
12V PROTECTOR
D712 HZS36L1
D714 1SS254
T702
FOCUS
SCR
C969 4700P/AC250V
CHASSIS METAL
R913 680K RD1/8J
LIVE
COLD
H.OUT
EH
TO D.Y
27UX
27CX

- Since this is a basic circuit diagram, the value of the parts is subject
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken

Circuit No.	Pin No.	Voltage VDC
I620	1	1.3
	2	0.9
	3	0.6
	4	0.5
	5	0.0
	6	0.6
	7	0.6
	8	5.0
	9	0.5
	10	0.5
	11	0.0
	12	2.5
	13	5.0

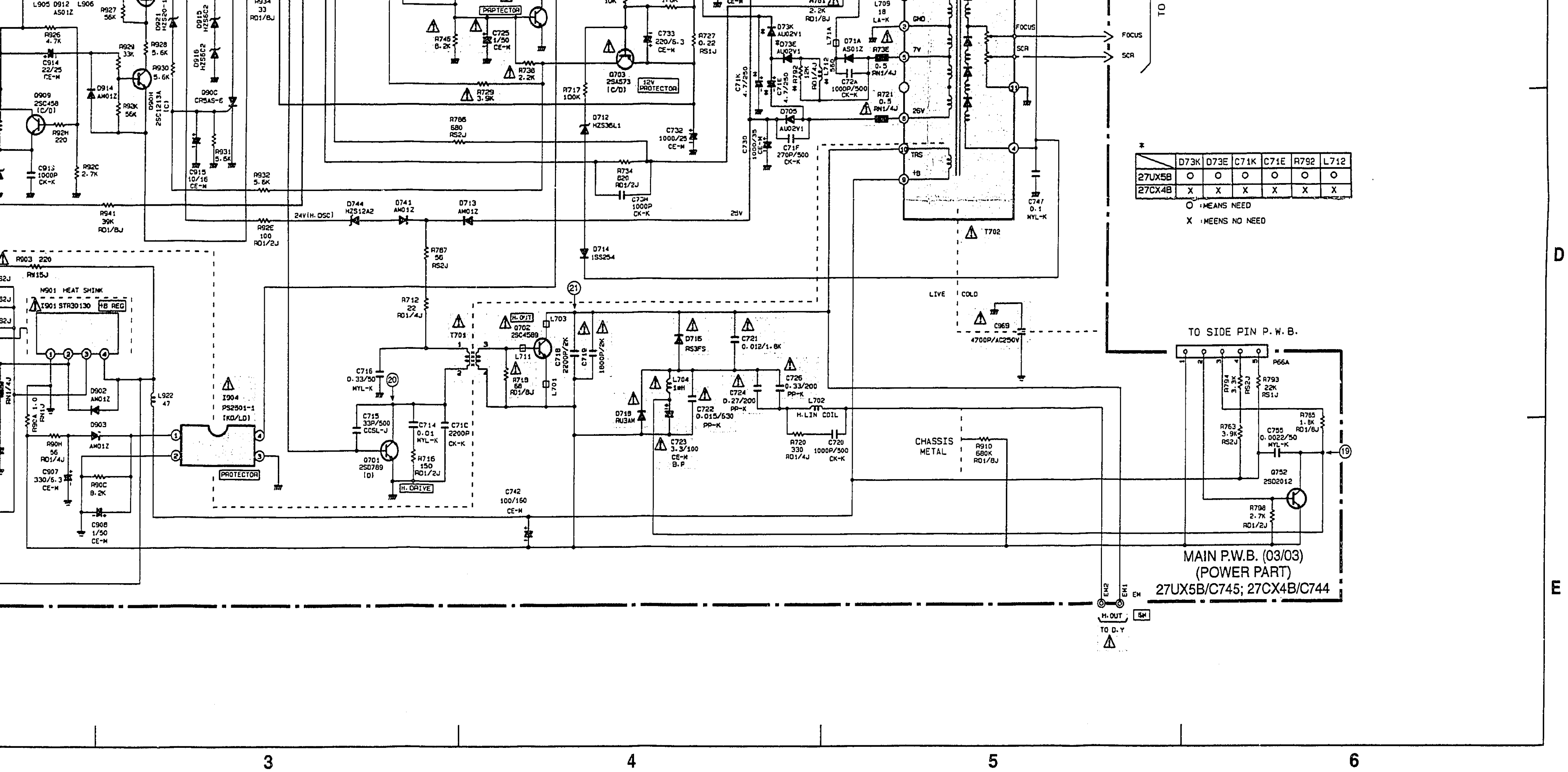
Circuit No.	Pin No.	Voltage VDC
I701	1	12.0
	2	9.0
	3	0.5

Circuit No.	Pin No.	Voltage VDC
I901	1	0.0
	2	130
	3	160
	4	130

Circuit No.	Pin No.	Voltage VDC
I902	1	14.0
	2	13.0
	3	—
	4	0.0
	5	2.0
	6	0.0

Circuit No.	Pin No.	Voltage VDC
I903	1	1.2
	2	0.5
	3	0.5
	4	0.0

Circuit No.	Pin No.	Voltage VDC
I904	1	-60.0
	2	-60.0
	3	0.0
	4	15.0


FOCUS
SCR
TO SIDE PIN P.W.B.
P66A
LIVE
COLD
CHASSIS METAL
H.OUT
TO D.Y
EH
MAIN P.W.B. (03/03)
(POWER PART)
27UX5B/C745; 27CX4B/C744
I901 STR30130
M901 HEAT SHINK
I904 PS2501-1
PROTECTOR
H.DRIVE
H.LIN COIL
T701
T702
24V(H.OSC)
26V
25V
D
E
3
4
5
6

*	D73K	D73E	C71K	C71E	R792	L712
27UX5B	O	O	O	O	O	O
27CX4B	X	X	X	X	X	X

O : MEANS NEED
X : MEENS NO NEED

- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.

Circuit No.	Pin No.	Voltage VDC
I620	1	1.3
	2	0.9
	3	0.6
	4	0.5
	5	0.0
	6	0.6
	7	0.6
	8	5.0
	9	0.5
	10	0.5
	11	0.0
	12	2.5
	13	5.0

Circuit No.	Pin No.	Voltage VDC
I701	1	12.0
	2	9.0
	3	0.5

Circuit No.	Pin No.	Voltage VDC
I901	1	0.0
	2	130
	3	160
	4	130

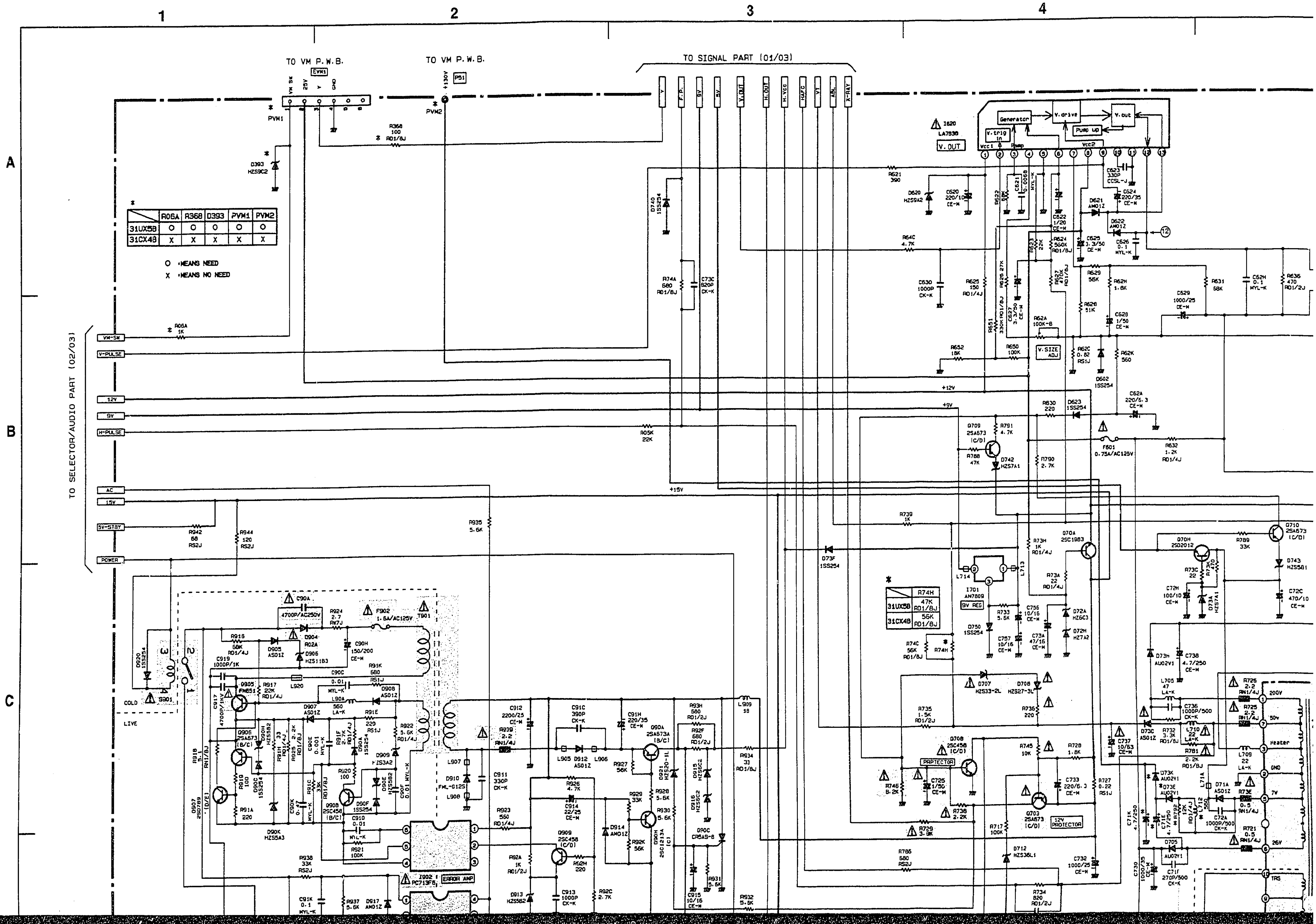
Circuit No.	Pin No.	Voltage VDC
I902	1	14.0
	2	13.0
	3	—
	4	0.0
	5	2.0
	6	0.0

Circuit No.	Pin No.	Voltage VDC
I903	1	1.2
	2	0.5
	3	0.5
	4	0.0

Circuit No.	Pin No.	Voltage VDC
I904	1	-60.0
	2	-60.0
	3	0.0
	4	15.0

CIRCUIT SCHEMATIC DIAGRAM OF 31UX5B/CY45, 31CX4B/CY44

PRODUCT SAFETY NOTE: C
any of these components, rea
through improper servicing.


1
2
3
4
A
B
C
TO VM P.W.B.
TO VM P.W.B.
TO SIGNAL PART (01/03)
TO SELECTOR/AUDIO PART (02/03)
VM-SW
V-PULSE
12V
9V
H-PULSE
AC
15V
5V-STBY
POWER
PVM1
PVM2
D393 HZS9C2
R368 100 R01/8J
R06A 1K
Y
F.B.
5V
5V
V.OUT
H.OUT
H.Vcc
HAFC
Y1
ABL
X-RAY
I620 LA7838
V.OUT
Generator
V.drive
V.out
Pump up
V.trig in
Vcc1
Ramp
Vcc2
V.SIZE ADJ
F601 0.75A/AC125V
I701 AN7809
9V REG
PROTECTOR
12V PROTECTOR
F902 1.6A/AC125V
T901
C90A 4700P/AC250V
I902 PC713F6
ERROR AMP
S901
COLD
LIVE
200V
50V
Heater
GND
7V
26V
+12V
49V
+15V

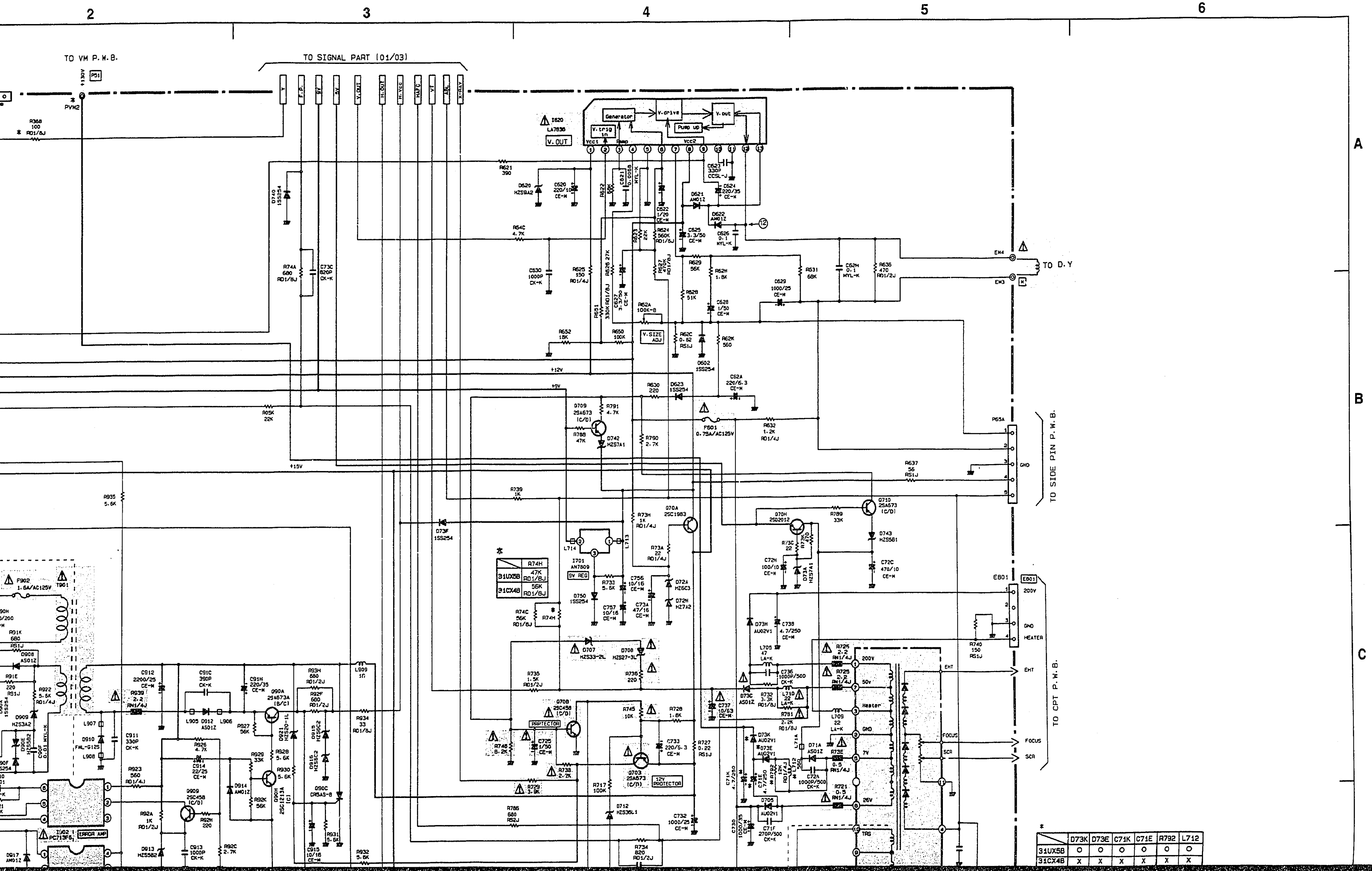
	R06A	R368	D393	PVM1	PVM2
31UX5B	O	O	O	O	O
31CX4B	X	X	X	X	X

O :MEANS NEED
X :MEANS NO NEED

	R74H
31UX5B	47K R01/8J
31CX4B	56K R01/8J

CIRCUIT SCHEMATIC DIAGRAM OF 31UX5B/CY45, 31CX4B/CY44

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

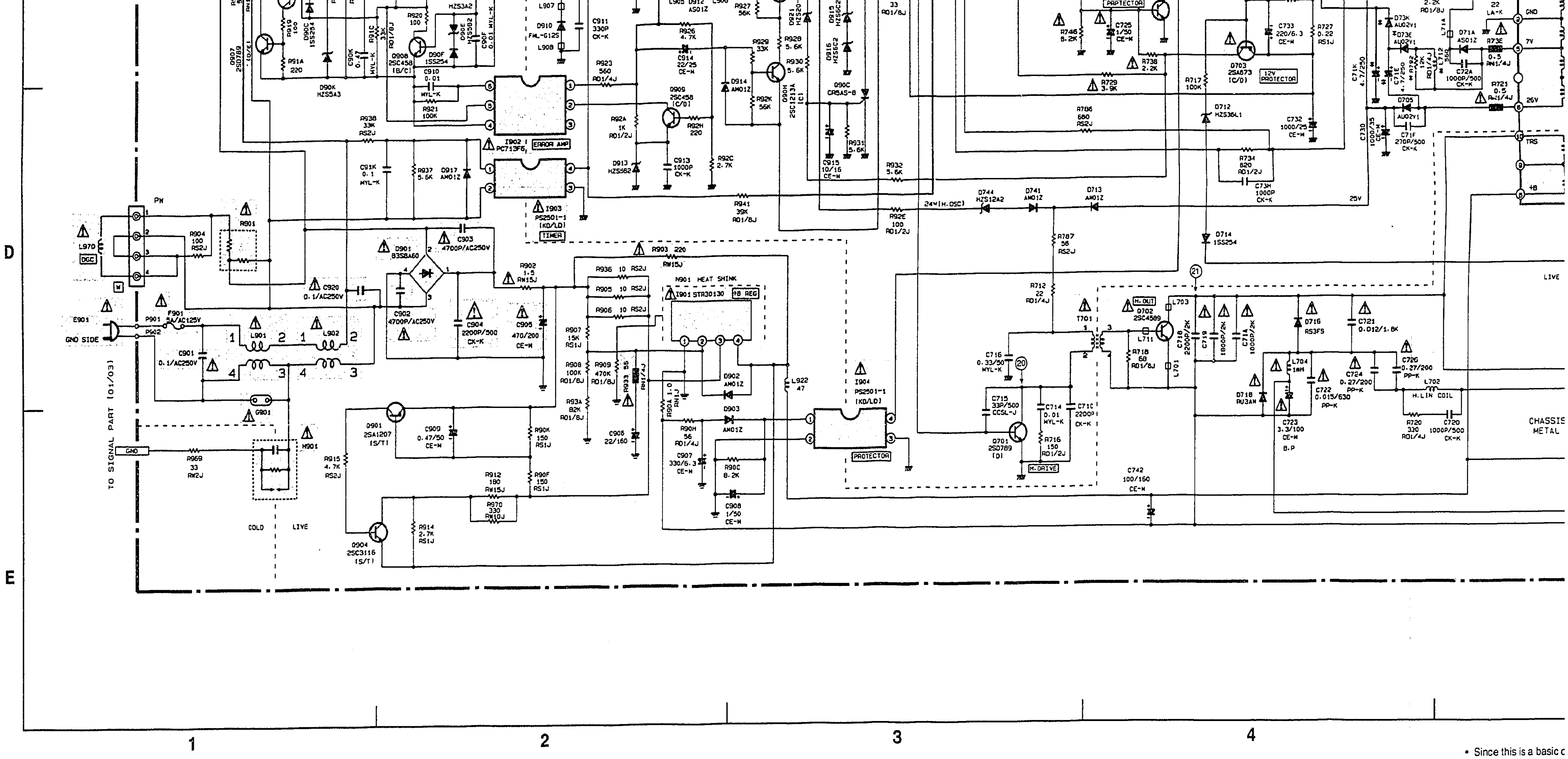

2
3
4
5
6
A
B
C
TO VM P.W.B.
+130V
P51
PVH2
R368 100 RD1/8J
TO SIGNAL PART (01/03)
Y
F.P.
9V
5V
V.OUT
H.OUT
H.Vcc
HAFC
VT
ABL
X-RAY
I620 LA7838
V.OUT
Generator
V.drive
V.out
V.trig
Pump up
Vcc1
Ramp
Vcc2
R621 390
D620 HZS9A2
C620 220/10 CE-M
R622
C621 0.0068 MYL-K
C623 330P CCSL-J
C624 220/35 CE-M
D621 AM01Z
D622 AM01Z
C622 1/20 CE-M
C625 3.3/50 CE-M
C626 0.1 MYL-K
R624 560K RD1/8J
R623 22K
R627
R54C 4.7K
D740 1SS254
R74A 680 RD1/8J
C73C 820P CK-K
C630 1000P CK-K
R625 150 RD1/4J
R626 27K
C627 3.3/50 CE-M
R651 330K RD1/8J
R629 56K
R62H 1.8K
R628 51K
C628 1/50 CE-M
R62A 100K-B
V.SIZE ADJ
R62C 0.82 RS1J
R62K 560
D602 1SS254
R631 68K
C62M 0.1 MYL-K
R636 470 RD1/2J
C629 1000/25 CE-M
EM4
EM3
TO D.Y
R652 18K
R650 100K
+12V
+9V
+15V
R630 220
D623 1SS254
C62A 220/6.3 CE-M
D709 2SA673 (C/D)
R791 4.7K
R788 47K
D742 HZS7A1
R790 2.7K
F601 0.75A/AC125V
R632 1.2K RD1/4J
R05K 22K
P65A
R637 56 RS1J
GND
TO SIDE PIN P.W.B.
R935 5.6K
R739 1K
D73F 1SS254
L714
L713
I701 AN7809
9V REG
R74C 56K RD1/8J
R74H
D70A 2SC1983
R73H 1K RD1/4J
R73A 22 RD1/4J
D710 2SA673 (C/D)
D70H 2SD2012
R789 33K
D743 HZS5B1
R73C 22
R72K 470
C72H 100/10 CE-M
D73A HZS7A1
C72C 470/10 CE-M
R733 5.6K
C756 10/16 CE-M
D750 1SS254
C757 10/16 CE-M
C73A 47/16 CE-M
D72A HZ6C3
D72H HZ7A2
E801
200V
GND
HEATER
D73H AU02V1
C738 4.7/250 CE-M
L705 47 LA-K
C736 1000P/500 CK-K
R740 150 RS1J
D707 HZS33-2L
D708 HZS27-3L
R735 1.5K RD1/2J
R736 220
D708 2SC458 (C/D)
PROTECTOR
R745 10K
R728 1.8K
R746 8.2K
C725 1/50 CE-M
R738 2.2K
D703 2SA673 (C/D)
12V PROTECTOR
C733 220/6.3 CE-M
R727 0.22 RS1J
R729 3.9K
R717 100K
D712 HZS36L1
R786 680 RS2J
C732 1000/25 CE-M
R734 820 RD1/2J
C737 10/63 CE-M
D73C AS01Z
R732 3.3K RD1/8J
L710 22 LA-K
R781 2.2K RD1/8J
L709 22 LA-K
D73K AU02V1
D73E AU02V1
R792 12K RD1/4J
L71A
D71A AS01Z
R73E 0.5 RN1/4J
C72A 1000P/500 CK-K
R721 0.5 RN1/4J
C71K 4.7/250 CE-M
C71E 4.7/250
D705 AU02V1
C71F 270P/500 CK-K
C730 1000/35 CE-M
R726 2.2 RN1/4J
R725 2.2 RN1/4J
200V
50V
Heater
GND
7V
26V
TRS
EHT
FOCUS
SCR
TO CPT P.W.B.
F902 1.6A/AC125V
T901
R91K 680 RS1J
D908 AS01Z
R91E 220 RS1J
R922 5.6K RD1/4J
D909 HZS3A2
D90E HZS5B2
C90F 0.01 MYL-K
L907
D910 FML-G12S
L908
C912 2200/25 CE-M
R939 2.2 RN1/4J
C911 330P CK-K
R923 560 RD1/4J
I902 PC713F6
ERROR AMP
D917 AM01Z
D913 HZS5B2
R92A 1K RD1/2J
C91C 390P CK-K
L905
D912 AS01Z
L906
C914 22/25 CE-M
R926 4.7K
C91H 220/35 CE-M
D90A 2SA673A (B/C)
R927 56K
D921 HZS20-1L
R92H 220
D909 2SC458 (C/D)
C913 1000P CK-K
R92C 2.7K
D914 AM01Z
R929 33K
R928 5.6K
R930 5.6K
R92K 56K
D90H 2SC1213A (C)
R93H 680 RD1/2J
R92F 680 RD1/2J
D915 HZS6C2
D916 HZS6C2
D90C CR5AS-8
R931 5.6K
C915 10/16 CE-M
L909 1Ω
R934 33 RD1/8J
R932 5.6K

*

	R74H
31UX5B	47K RD1/8J
31CX4B	56K RD1/8J

*

	D73K	D73E	C71K	C71E	R792	L712
31UX5B	○	○	○	○	○	○
31CX4B	X	X	X	X	X	X


D
E
1
2
3
4
TO SIGNAL PART (01/03)
E901
GND SIDE
COLD
LIVE
P901 5A/AC125V
L901
L902
D901 B3SBA60
C902 4700P/AC250V
C903 4700P/AC250V
C904 2200P/500 CK-K
C905 470/200 CE-M
N901 HEAT SHINK
I901 STR30130 +B REG
I902 PC713F6 ERROR AMP
I903 PS2501-1 (KO/LD) TIMER
I904 PS2501-1 (KO/LD) PROTECTOR
Q901 2SA1207 (S/T)
Q904 2SC3116 (S/T)
Q701 2SD789 (D)
Q702 2SC4589
H.DRIVE
H.OUT
T701
Q703 2SA673 (C/D) 12V PROTECTOR
24V(H.OSC)
25V
26V
LIVE
H.LIN COIL
CHASSIS METAL

- Since this is a basic c
- All DC voltage to be r

Circuit No.	Pin No.	Voltage VDC
I620	1	1.3
	2	0.9
	3	0.6
	4	0.5
	5	0.0
	6	0.6
	7	0.6
	8	5.0
	9	0.5
	10	0.5
	11	0.0
	12	2.5
	13	5.0

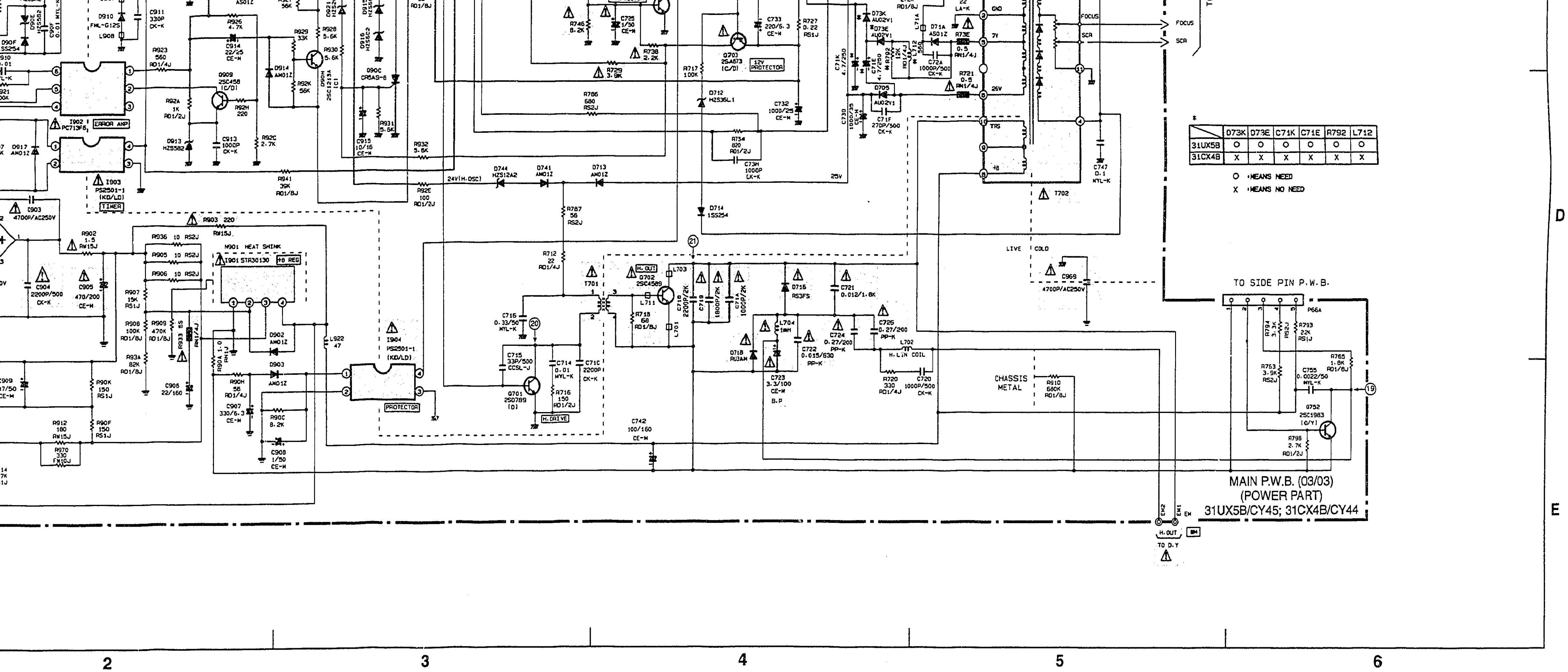
Circuit No.	Pin No.	Voltage VDC
I701	1	12.0
	2	9.0
	3	0.5

Circuit No.	Pin No.	Voltage VDC
I901	1	0.0
	2	130
	3	160
	4	130

Circuit No.	Pin No.	Voltage VDC
I902	1	14.0
	2	13.0
	3	—
	4	0.0
	5	2.0
	6	0.0

Circuit No.	Pin No.	Voltage VDC
I903	1	1.2
	2	0.5
	3	0.5
	4	0.0

Circuit No.	Pin No.	Voltage VDC
I904	1	-60.0
	2	-60.0
	3	0.0
	4	15.0


MAIN P.W.B. (03/03)
(POWER PART)
31UX5B/CY45; 31CX4B/CY44
TO SIDE PIN P.W.B.
I901 STR30130 +B REG
H901 HEAT SHINK
I902 PC713F6 ERROR AMP
I903 PS2501-1 (KD/LD) TIMER
I904 PS2501-1 (KD/LD) PROTECTOR
Q701 2SD789 (O) H.DRIVE
Q702 2SC4589 H.OUT
Q703 2SA673 (C/D) 12V PROTECTOR
Q752 2SC1983 (O/Y)
Q909 2SC458 (C/D)
T701
T702
L702 H.LIN COIL
L922 47
CHASSIS METAL
LIVE
COLD
C969 4700P/AC250V
FOCUS
SCR
24V(H.OSC)
25V
H.OUT
TO D.Y
EM1
EM2
D
E
2
3
4
5
6

	D73K	D73E	C71K	C71E	R792	L712
31UX5B	O	O	O	O	O	O
31CX4B	X	X	X	X	X	X

O : MEANS NEED
X : MEANS NO NEED

- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.

Circuit No.	Pin No.	Voltage VDC
I620	1	1.3
	2	0.9
	3	0.6
	4	0.5
	5	0.0
	6	0.6
	7	0.6
	8	5.0
	9	0.5
	10	0.5
	11	0.0
	12	2.5
	13	5.0

Circuit No.	Pin No.	Voltage VDC
I701	1	12.0
	2	9.0
	3	0.5

Circuit No.	Pin No.	Voltage VDC
I901	1	0.0
	2	130
	3	160
	4	130

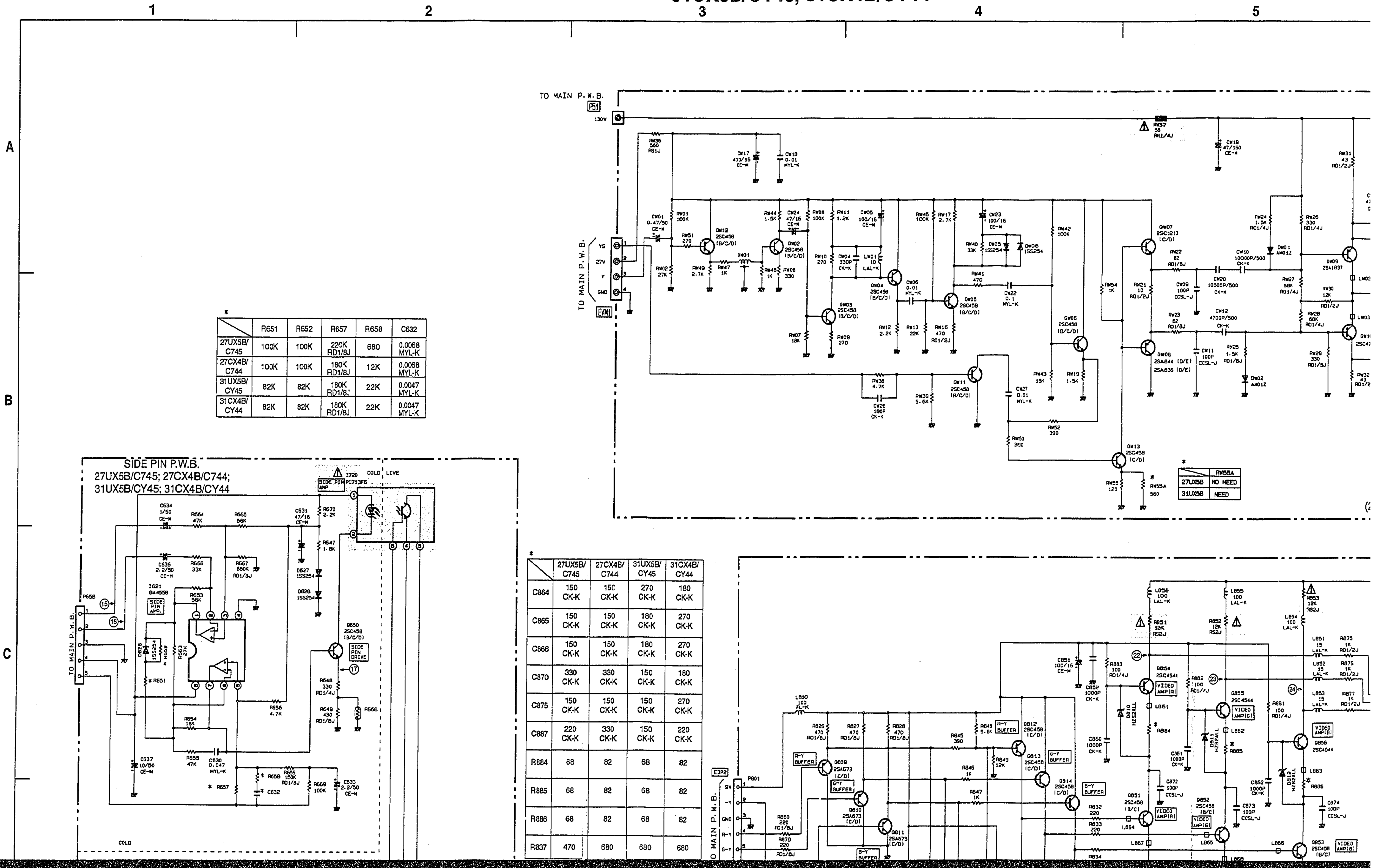
Circuit No.	Pin No.	Voltage VDC
I902	1	14.0
	2	13.0
	3	—
	4	0.0
	5	2.0
	6	0.0

Circuit No.	Pin No.	Voltage VDC
I903	1	1.2
	2	0.5
	3	0.5
	4	0.0

Circuit No.	Pin No.	Voltage VDC
I904	1	-60.0
	2	-60.0
	3	0.0
	4	15.0

CIRCUIT SCHEMATIC DIAGRAM OF 27UX5B/C745, 27CX4B/C744, 31UX5B/CY45, 31CX4B/CY44

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shad
any of these components, read carefully the PRODUCT SAFETY NOTI
through improper servicing.


1
2
3
4
5
A
B
C
TO MAIN P.W.B.
P51
130V
EVM1
YS
27V
Y
GND
SIDE PIN P.W.B.
27UX5B/C745; 27CX4B/C744;
31UX5B/CY45; 31CX4B/CY44
TO MAIN P.W.B.
P658
I621 BA4558
SIDE PIN AMP.
I720 PC713F6
SIDE PIN AMP
COLD
LIVE
Q650 2SC458 (B/C/D)
SIDE PIN DRIVE
E3P2
P801
9V
-Y
GND
R-Y
G-Y
R-Y BUFFER
G-Y BUFFER
B-Y BUFFER
VIDEO AMP(R)
VIDEO AMP(G)
VIDEO AMP(B)

*

	R651	R652	R657	R658	C632
27UX5B/ C745	100K	100K	220K RD1/8J	680	0.0068 MYL-K
27CX4B/ C744	100K	100K	180K RD1/8J	12K	0.0068 MYL-K
31UX5B/ CY45	82K	82K	180K RD1/8J	22K	0.0047 MYL-K
31CX4B/ CY44	82K	82K	180K RD1/8J	22K	0.0047 MYL-K

*

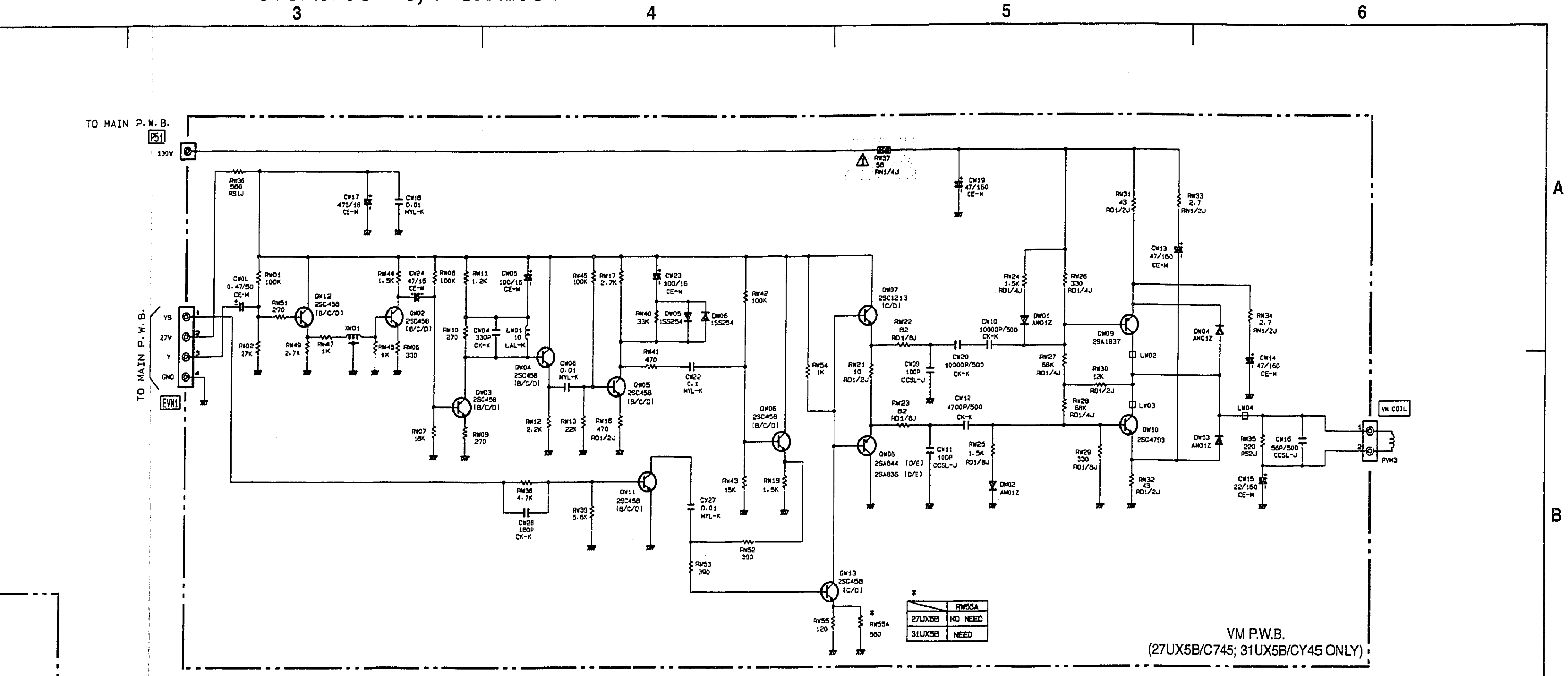
	RW55A
27UX5B	NO NEED
31UX5B	NEED

*

	27UX5B/ C745	27CX4B/ C744	31UX5B/ CY45	31CX4B/ CY44
C864	150 CK-K	150 CK-K	270 CK-K	180 CK-K
C865	150 CK-K	150 CK-K	180 CK-K	270 CK-K
C866	150 CK-K	150 CK-K	180 CK-K	270 CK-K
C870	330 CK-K	330 CK-K	150 CK-K	180 CK-K
C875	150 CK-K	150 CK-K	150 CK-K	270 CK-K
C887	220 CK-K	330 CK-K	150 CK-K	220 CK-K
R884	68	82	68	82
R885	68	82	68	82
R886	68	82	68	82
R837	470	680	680	680

CIRCUIT SCHEMATIC DIAGRAM OF 27UX5B/C745, 27CX4B/C744, 31UX5B/CY45, 31CX4B/CY44

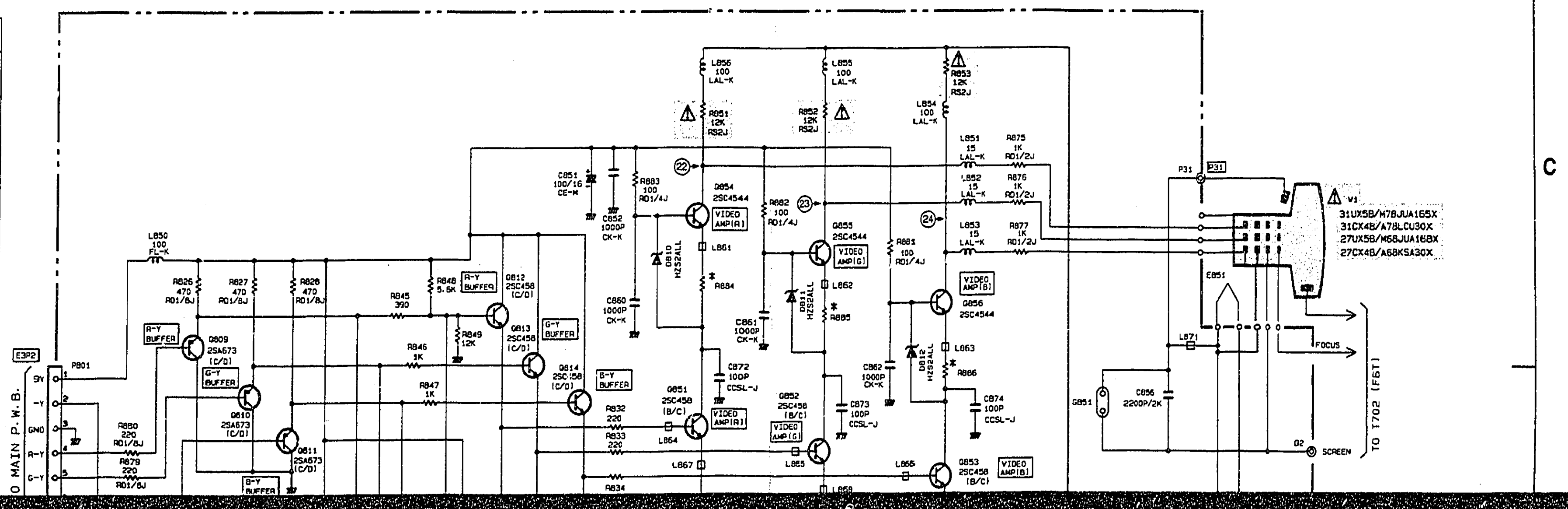
PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



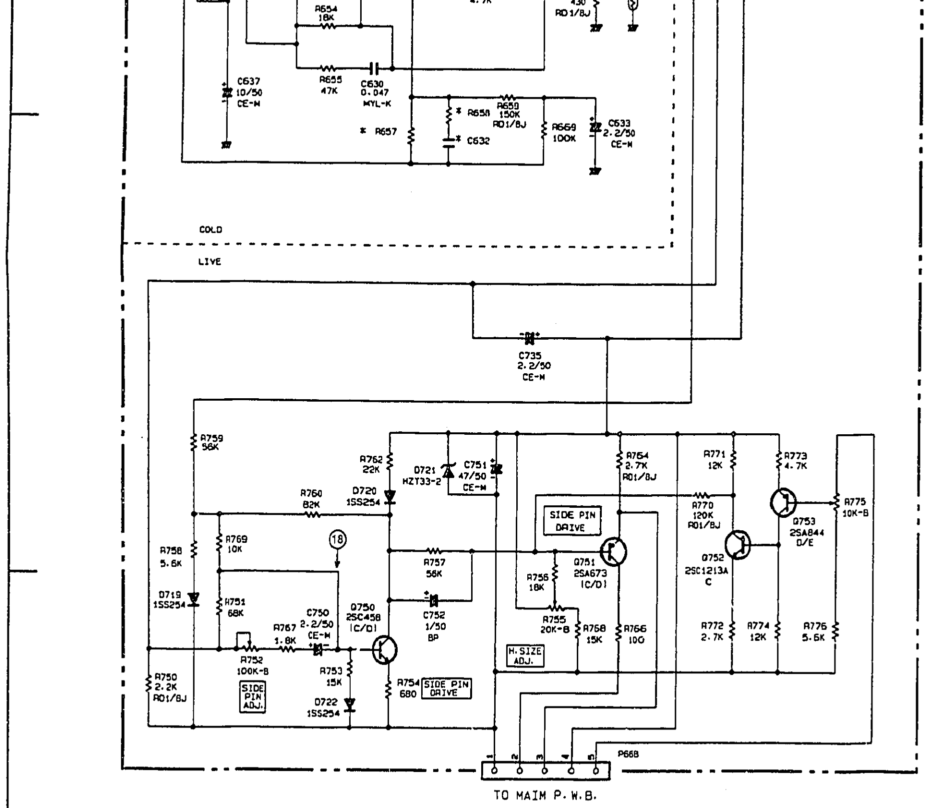
3
4
5
6
A
B
TO MAIN P.W.B.
P51
130V
TO MAIN P.W.B.
YS
27V
Y
GND
EVM1
RW36 560 RS1J
CW17 470/16 CE-M
CW18 0.01 MYL-K
RW37 56 RN1/4J
CW19 47/160 CE-M
RW31 43 RD1/2J
RW33 2.7 RN1/2J
CW13 47/160 CE-M
QW12 2SC458 (B/C/D)
QW02 2SC458 (B/C/D)
QW03 2SC458 (B/C/D)
QW04 2SC458 (B/C/D)
QW05 2SC458 (B/C/D)
QW06 2SC458 (B/C/D)
QW07 2SC1213 (C/D)
QW08 2SA844 (D/E) 2SA836 (D/E)
QW09 2SA1837
QW10 2SC4793
QW11 2SC458 (B/C/D)
QW13 2SC458 (C/D)
DW05 1SS254
DW06 1SS254
DW01 AM01Z
DW02 AM01Z
DW03 AM01Z
DW04 AM01Z
LW01 10 LAL-K
LW02
LW03
LW04
RW34 2.7 RN1/2J
CW14 47/160 CE-M
RW35 220 RS2J
CW16 56P/500 CCSL-J
CW15 22/160 CE-M
VM COIL
PVM3
RW55 120
RW55A 560
VM P.W.B.
(27UX5B/C745; 31UX5B/CY45 ONLY)

*	RW55A
27UX5B	NO NEED
31UX5B	NEED

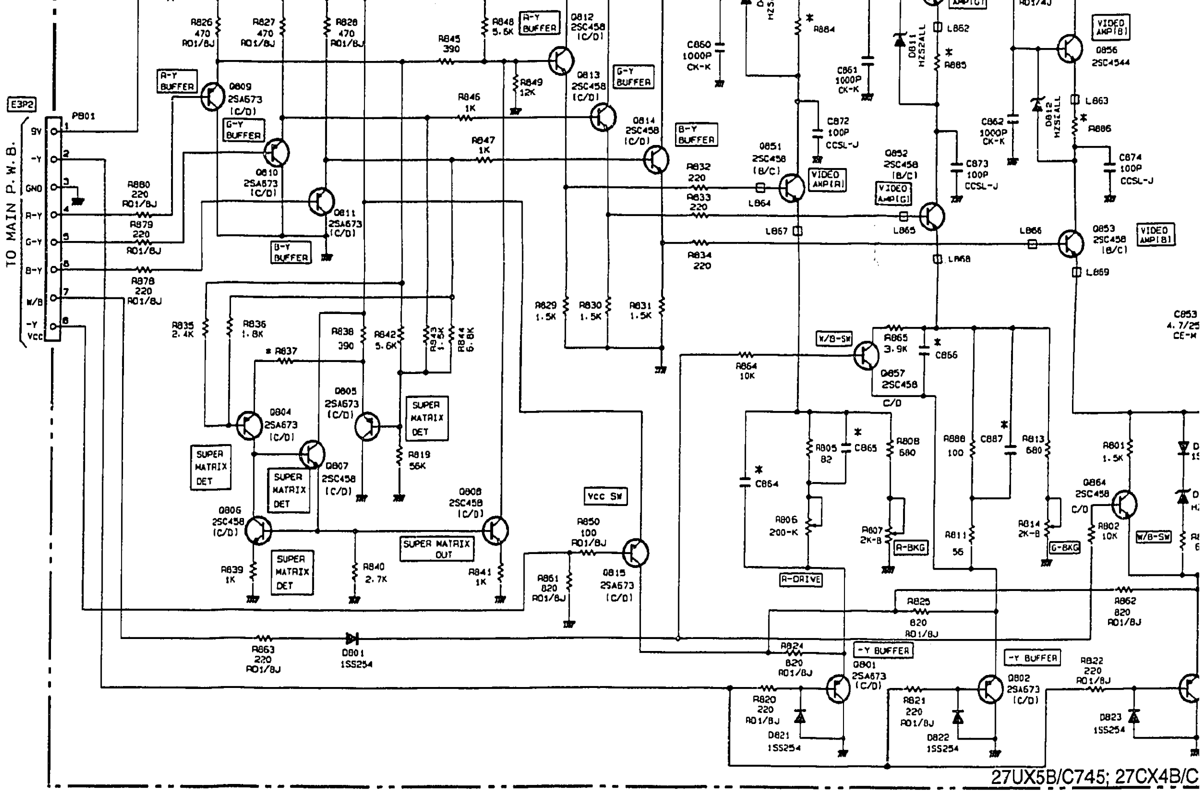
*	27UX5B/ C745	27CX4B/ C744	31UX5B/ CY45	31CX4B/ CY44
C864	150 CK-K	150 CK-K	270 CK-K	180 CK-K
C865	150 CK-K	150 CK-K	180 CK-K	270 CK-K
C866	150 CK-K	150 CK-K	180 CK-K	270 CK-K
C870	330 CK-K	330 CK-K	150 CK-K	180 CK-K
C875	150 CK-K	150 CK-K	150 CK-K	270 CK-K
C887	220 CK-K	330 CK-K	150 CK-K	220 CK-K
R884	68	82	68	82
R885	68	82	68	82
R886	68	82	68	82
R837	470	680	680	680



C
E3P2
TO MAIN P.W.B.
9V
-Y
GND
R-Y
G-Y
P801
L850 100 FL-K
R-Y BUFFER
G-Y BUFFER
B-Y BUFFER
Q809 2SA673 (C/D)
Q810 2SA673 (C/D)
Q811 2SA673 (C/D)
Q812 2SC458 (C/D)
Q813 2SC458 (C/D)
Q814 2SC458 (C/D)
Q854 2SC4544
Q855 2SC4544
Q856 2SC4544
Q851 2SC458 (B/C)
Q852 2SC458 (B/C)
Q853 2SC458 (B/C)
VIDEO AMP(R)
VIDEO AMP(G)
VIDEO AMP(B)
D810 HZS2ALL
D811 HZS2ALL
D812 HZS2ALL
L856 100 LAL-K
L855 100 LAL-K
R853 12K RS2J
R851 12K RS2J
R852 12K RS2J
L854 100 LAL-K
P31
V1
31UX5B/W78JUA165X
31CX4B/A78LCU30X
27UX5B/M68JUA16BX
27CX4B/A68KSA30X
E851
G851
C856 2200P/2K
FOCUS
SCREEN
TO T702 (FBT)


R654
16K
4.7K
430
R01/8J
C637
10/50
CE-M
R655
47K
C630
0.047
MYL-K
R659
150K
R01/8J
R658
R669
100K
C633
2.2/50
CE-M
R657
C632
COLD
LIVE
C735
2.2/50
CE-M
R759
56K
R762
22K
D721
HZT33-2
C751
47/50
CE-M
R764
2.7K
R01/8J
R771
12K
R773
4.7K
R760
82K
D720
1SS254
SIDE PIN
DRIVE
R770
120K
R01/8J
R775
10K-B
Q753
2SA844
D/E
R758
5.6K
R769
10K
18
R757
56K
R756
18K
Q751
2SA673
(C/D)
Q752
2SC1213A
C
D719
1SS254
R751
68K
C750
2.2/50
CE-M
Q750
2SC458
(C/D)
C752
1/50
BP
R755
20K-B
R768
15K
R766
100
R772
2.7K
R774
12K
R776
5.6K
R767
1.8K
H.SIZE
ADJ.
R752
100K-B
R753
15K
R750
2.2K
R01/8J
SIDE
PIN
ADJ.
D722
1SS254
R754
680
SIDE PIN
DRIVE
1
2
3
4
5
P668
TO MAIM P.W.B.

C887	220 CK-K	330 CK-K	150 CK-K	220 CK-K
R884	68	82	68	82
R885	68	82	68	82
R886	68	82	68	82
R837	470	680	680	680


E3P2
TO MAIN P.W.B.
9V
-Y
GND
R-Y
G-Y
B-Y
W/B
-Y
VCC
P801
R826
470
R01/8J
R827
470
R01/8J
R828
470
R01/8J
R-Y
BUFFER
Q809
2SA673
(C/D)
G-Y
BUFFER
Q810
2SA673
(C/D)
Q811
2SA673
(C/D)
B-Y
BUFFER
R880
220
R01/8J
R879
220
R01/8J
R878
220
R01/8J
R845
390
R848
5.6K
R-Y
BUFFER
Q812
2SC458
(C/D)
R849
12K
Q813
2SC458
(C/D)
G-Y
BUFFER
R846
1K
R847
1K
Q814
2SC458
(C/D)
B-Y
BUFFER
C860
1000P
CK-K
R884
C861
1000P
CK-K
D811
HZS2ALL
L862
R885
VIDEO
AMP(B)
Q856
2SC4544
L863
D812
HZS2ALL
C862
1000P
CK-K
R886
C872
100P
CCSL-J
Q851
2SC458
(B/C)
VIDEO
AMP(R)
Q852
2SC458
(B/C)
VIDEO
AMP(G)
C873
100P
CCSL-J
C874
100P
CCSL-J
R832
220
R833
220
L864
L867
L865
L866
Q853
2SC458
(B/C)
VIDEO
AMP(B)
R834
220
L868
L869
R835
2.4K
R836
1.8K
* R837
R838
390
R842
5.6K
R843
1.5K
R844
6.8K
R829
1.5K
R830
1.5K
R831
1.5K
C853
4.7/25
CE-M
Q805
2SA673
(C/D)
Q804
2SA673
(C/D)
SUPER
MATRIX
DET
Q807
2SC458
(C/D)
R819
56K
W/B-SW
R865
3.9K
C866
Q857
2SC458
C/D
R864
10K
Q806
2SC458
(C/D)
Q808
2SC458
(C/D)
SUPER MATRIX
OUT
Vcc SW
R850
100
R01/8J
Q815
2SA673
(C/D)
R861
820
R01/8J
R839
1K
R840
2.7K
R841
1K
C864
R805
82
C865
R806
200-K
R808
680
R807
2K-B
R-BKG
R888
100
C887
R811
56
R813
680
R814
2K-B
G-BKG
R801
1.5K
Q864
2SC458
C/D
R802
10K
W/B-SW
R-DRIVE
R825
820
R01/8J
R862
820
R01/8J
R863
220
R01/8J
D801
1SS254
R824
820
R01/8J
-Y BUFFER
Q801
2SA673
(C/D)
-Y BUFFER
Q802
2SA673
(C/D)
R822
220
R01/8J
R820
220
R01/8J
D821
1SS254
R821
220
R01/8J
D822
1SS254
D823
1SS254

27UX5B/C745; 27CX4B/C

D

E

1

2

3

4

5

- Since this is a basic circuit diagram, the value of the parts is subjec
- All DC voltage to be measured with a tester (100kΩ/V). Voltage take

Circuit No.	Pin No.	Voltage VDC
I621	1	5.0
	2	5.0
	3	5.0
	4	0.0
	5	5.7
	6	5.7
	7	6.2
	8	10.9

Circuit No.	Pin No.	Voltage VDC
I720	1	11.0
	2	9.8
	3	0.0
	4	-56.0
	5	-36.0

Circuit No.	Pin No.	Voltage VDC
Q403	B	12.0
	C	6.0
	E	12.0
Q404	B	2.4
	C	11.0
	E	1.7
Q405	B	0.5
	C	0.0
	E	0.0

Circuit No.	Pin No.	Voltage VDC
Q406	B	0.5
	C	0.0
	E	0.0
Q407	B	0.0
	C	15.0
	E	0.0
Q50C	B	0.0
	C	6.5
	E	0.0
Q601	B	5.2
	C	9.0
	E	4.5
Q602	B	0.0
	C	4.4
	E	0.0
Q603	B	5.0
	C	1.3
	E	4.5
Q70A	B	12.0
	C	15.0
	E	12.0

Circuit No.	Pin No.	Voltage VDC
Q70H	B	5.7
	C	7.5
	E	5.0
Q701	B	0.3
	C	17.0
	E	0.0
Q702	B	-60.0
	C	41.0
	E	-60.0
Q703	B	15.0
	C	0.0
	E	15.0
Q708	B	0.0
	C	15.0
	E	0.0
Q709	B	9.0
	C	0.0
	E	8.0
Q710	B	5.0
	C	0.0
	E	5.0
Q752 (27v)	B	-60.0
	C	-44.0
	E	-60.0
Q752 (31v)	B	-60.0
	C	-44.0
	E	-60.0
Q761	B	7.6
	C	9.0
	E	7.0

Circuit No.	Pin No.	Voltage VDC
Q90A	B	40.0
	C	11.0
	E	40.0
Q90C	B	0.0
	C	15.0
	E	0.0
Q90H	B	0.0
	C	40.0
	E	0.0
Q901	B	57.0
	C	57.0
	E	57.0
Q904	B	33.0
	C	34.0
	E	33.0
Q905	B	0.0
	C	122.0
	E	0.0
Q906	B	0.0
	C	0.5
	E	0.5
Q907	B	0.0
	C	0.5
	E	0.0
Q908	B	0.0
	C	2.0
	E	0.0
Q909	B	5.5
	C	12.0
	E	5.5

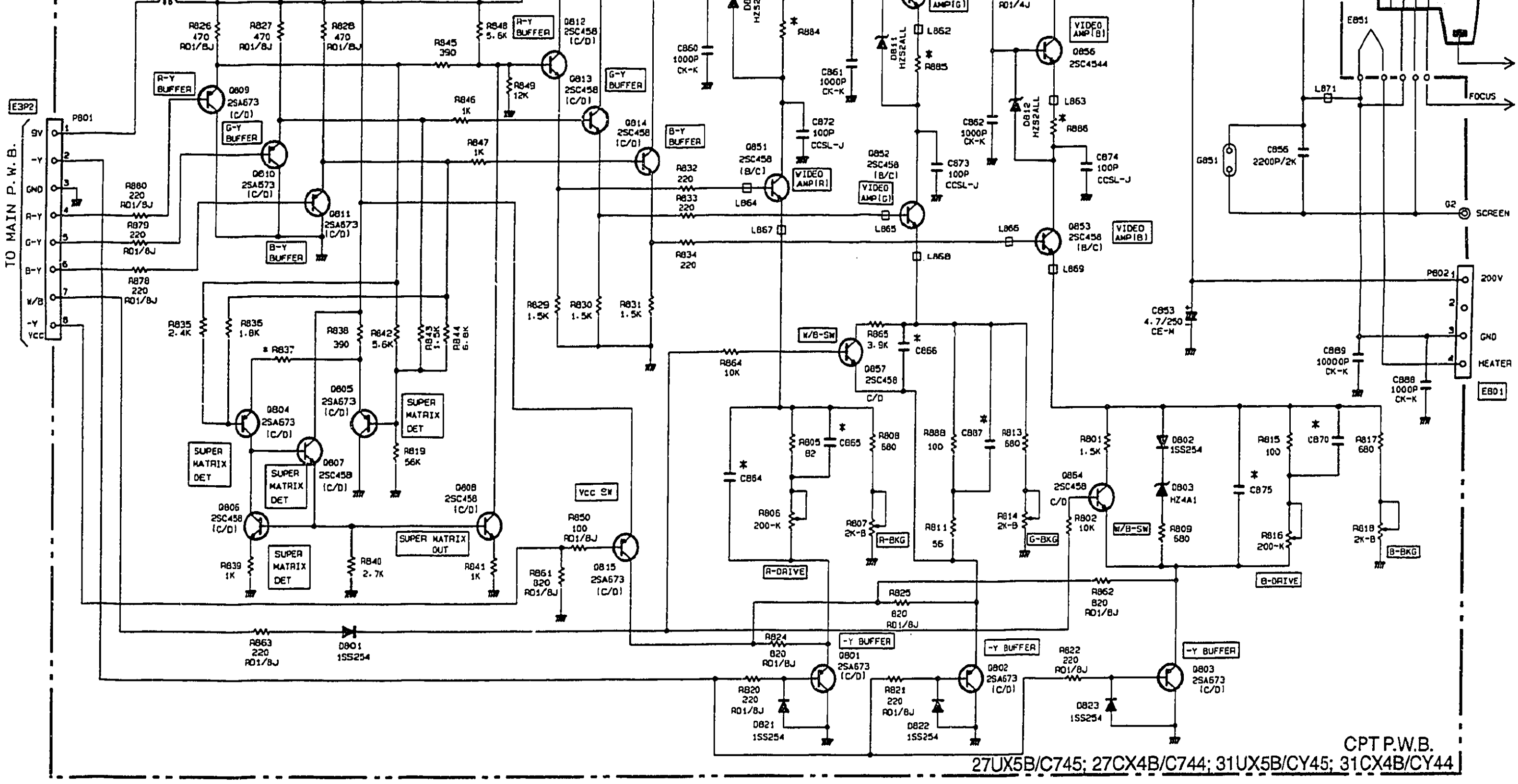
Circuit No.	Pin No.	Voltage VDC
Q650 Side P.	B	6.5
	C	9.8
	E	5.6
Q750 Side P.	B	-60.0
	C	-50.0
	E	-60.0
Q751 Side P.	B	-41.0
	C	-60.0
	E	-41.0
Q752 Side P.	B	-60.0
	C	-35.0
	E	-60.0
Q753 Side P.	B	-35.0
	C	-60.0
	E	-35.0
Q801 CPT	B	4.0
	C	0.0
	E	4.0
Q802 CPT	B	3.8
	C	0.0
	E	3.9
Q803 CPT	B	4.0
	C	0.0
	E	4.0
Q804 CPT	B	6.0
	C	1.4
	E	6.4
Q805 CPT	B	5.8
	C	0.0
	E	6.5

Circuit No.	Pin No.	Voltage VDC
Q806 CPT	B	0.7
	C	1.4
	E	0.0
Q807 CPT	B	1.3
	C	9.0
	E	0.6
Q808 CPT	B	0.9
	C	6.0
	E	0.0
Q809 CPT	B	5.0
	C	0.0
	E	6.0
Q810 CPT	B	5.0
	C	0.0
	E	6.0
Q811 CPT	B	5.0
	C	0.0
	E	6.0
Q812 CPT	B	6.0
	C	9.0
	E	5.0
Q813 CPT	B	6.0
	C	9.0
	E	5.0
Q814 CPT	B	0.9
	C	9.0
	E	0.9
Q815 CPT	B	5.0
	C	3.9
	E	3.9

Circuit No.	Pin No.	Voltage VDC
Q851 CPT	B	5.0
	C	8.0
	E	5.0
Q852 CPT	B	5.0
	C	7.6
	E	4.7
Q853 CPT	B	5.0
	C	8.0
	E	5.0
Q854 CPT	B	1.5
	C	26.0
	E	1.5
Q855 CPT	B	1.2
	C	24.0
	E	1.2
Q856 CPT	B	1.2
	C	24.0
	E	1.2
Q857 CPT	B	4.5
	C	3.9
	E	3.9
Q864 CPT	B	4.6
	C	4.0
	E	4.0
QW02 VM	B	2.5
	C	2.0
	E	0.0
QW03 VM	B	0.0
	C	1.3
	E	0.0

Circuit No.	P N
QW04 VM	
QW05 VM	
QW06 VM	
QW07 VM	
QW08 VM	
QW09 VM	
QW10 VM	
QW11 VM	
QW12 VM	
QW13 VM	

C887	220 CK-K	330 CK-K	150 CK-K	220 CK-K
R884	68	82	68	82
R885	68	82	68	82
R886	68	82	68	82
R837	470	680	680	680


E3P2
TO MAIN P.W.B.
9V
-Y
GND
R-Y
G-Y
B-Y
W/B
-Y YCC
P801
R-Y BUFFER
G-Y BUFFER
B-Y BUFFER
SUPER MATRIX DET
SUPER MATRIX OUT
YCC SW
W/B-SW
VIDEO AMP(R)
VIDEO AMP(G)
VIDEO AMP(B)
R-DRIVE
B-DRIVE
R-BKG
G-BKG
B-BKG
-Y BUFFER
FOCUS
SCREEN
TO T702 (FBT)
P802
200V
GND
HEATER
E8D1
CPT P.W.B.
27UX5B/C745; 27CX4B/C744; 31UX5B/CY45; 31CX4B/CY44

D

E

3

4

5

6

- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.

ltage /DC
5.0
5.0
5.0
0.0
5.7
5.7
6.2
0.9

tage /DC
1.0
.8
0.0
6.0
6.0

tage DC
2.0
.0
2.0
.4
1.0
.7
.5
0
0

Circuit No.	Pin No.	Voltage VDC
Q406	B	0.5
	C	0.0
	E	0.0
Q407	B	0.0
	C	15.0
	E	0.0
Q50C	B	0.0
	C	6.5
	E	0.0
Q601	B	5.2
	C	9.0
	E	4.5
Q602	B	0.0
	C	4.4
	E	0.0
Q603	B	5.0
	C	1.3
	E	4.5
Q70A	B	12.0
	C	15.0
	E	12.0

Circuit No.	Pin No.	Voltage VDC
Q70H	B	5.7
	C	7.5
	E	5.0
Q701	B	0.3
	C	17.0
	E	0.0
Q702	B	-60.0
	C	41.0
	E	-60.0
Q703	B	15.0
	C	0.0
	E	15.0
Q708	B	0.0
	C	15.0
	E	0.0
Q709	B	9.0
	C	0.0
	E	8.0
Q710	B	5.0
	C	0.0
	E	5.0
Q752 (27v)	B	-60.0
	C	-44.0
	E	-60.0
Q752 (31v)	B	-60.0
	C	-44.0
	E	-60.0
Q761	B	7.6
	C	9.0
	E	7.0

Circuit No.	Pin No.	Voltage VDC
Q90A	B	40.0
	C	11.0
	E	40.0
Q90C	B	0.0
	C	15.0
	E	0.0
Q90H	B	0.0
	C	40.0
	E	0.0
Q901	B	57.0
	C	57.0
	E	57.0
Q904	B	33.0
	C	34.0
	E	33.0
Q905	B	0.0
	C	122.0
	E	0.0
Q906	B	0.0
	C	0.5
	E	0.5
Q907	B	0.0
	C	0.5
	E	0.0
Q908	B	0.0
	C	2.0
	E	0.0
Q909	B	5.5
	C	12.0
	E	5.5

Circuit No.	Pin No.	Voltage VDC
Q650 Side P.	B	6.5
	C	9.8
	E	5.6
Q750 Side P.	B	-60.0
	C	-50.0
	E	-60.0
Q751 Side P.	B	-41.0
	C	-60.0
	E	-41.0
Q752 Side P.	B	-60.0
	C	-35.0
	E	-60.0
Q753 Side P.	B	-35.0
	C	-60.0
	E	-35.0
Q801 CPT	B	4.0
	C	0.0
	E	4.0
Q802 CPT	B	3.8
	C	0.0
	E	3.9
Q803 CPT	B	4.0
	C	0.0
	E	4.0
Q804 CPT	B	6.0
	C	1.4
	E	6.4
Q805 CPT	B	5.8
	C	0.0
	E	6.5

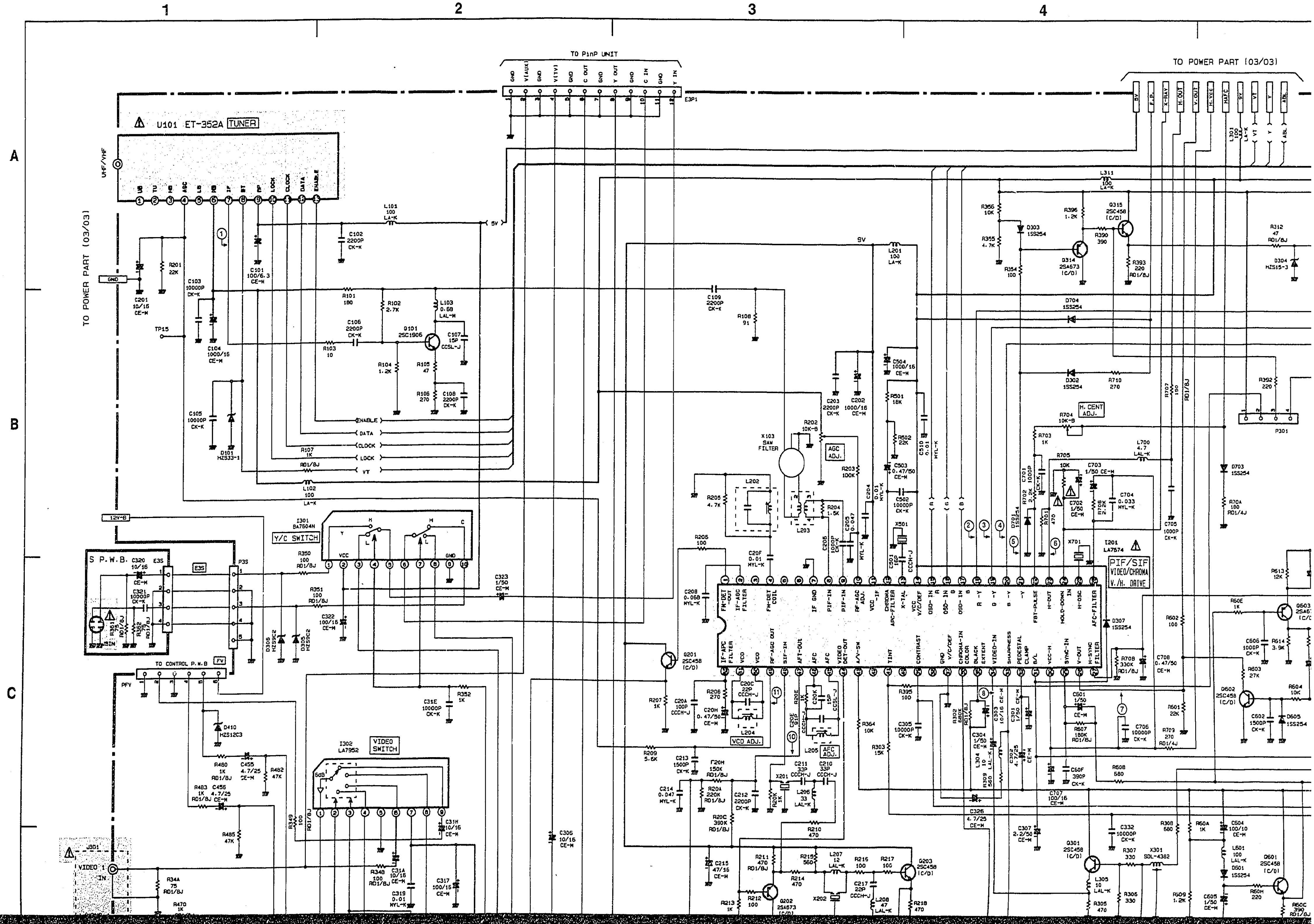
Circuit No.	Pin No.	Voltage VDC
Q806 CPT	B	0.7
	C	1.4
	E	0.0
Q807 CPT	B	1.3
	C	9.0
	E	0.6
Q808 CPT	B	0.9
	C	6.0
	E	0.0
Q809 CPT	B	5.0
	C	0.0
	E	6.0
Q810 CPT	B	5.0
	C	0.0
	E	6.0
Q811 CPT	B	5.0
	C	0.0
	E	6.0
Q812 CPT	B	6.0
	C	9.0
	E	5.0
Q813 CPT	B	6.0
	C	9.0
	E	5.0
Q814 CPT	B	0.9
	C	9.0
	E	0.9
Q815 CPT	B	5.0
	C	3.9
	E	3.9

Circuit No.	Pin No.	Voltage VDC
Q851 CPT	B	5.0
	C	8.0
	E	5.0
Q852 CPT	B	5.0
	C	7.6
	E	4.7
Q853 CPT	B	5.0
	C	8.0
	E	5.0
Q854 CPT	B	1.5
	C	26.0
	E	1.5
Q855 CPT	B	1.2
	C	24.0
	E	1.2
Q856 CPT	B	1.2
	C	24.0
	E	1.2
Q857 CPT	B	4.5
	C	3.9
	E	3.9
Q864 CPT	B	4.6
	C	4.0
	E	4.0
QW02 VM	B	2.5
	C	2.0
	E	0.0
QW03 VM	B	0.0
	C	1.3
	E	0.0

Circuit No.	Pin No.	Voltage VDC
QW04 VM	B	1.5
	C	2.0
	E	0.2
QW05 VM	B	2.0
	C	5.5
	E	1.5
QW06 VM	B	1.7
	C	14.0
	E	1.0
QW07 VM	B	10.0
	C	14.0
	E	10.0
QW08 VM	B	10.0
	C	0.0
	E	10.0
QW09 VM	B	138.0
	C	11.0
	E	138.0
QW10 VM	B	0.3
	C	11.5
	E	0.0
QW11 VM	B	0.0
	C	0.0
	E	0.0
QW12 VM	B	0.5
	C	2.0
	E	0.0
QW13 VM	B	1.0
	C	10.0
	E	0.3

CIRCUIT SCHEMATIC DIAGRAM OF 35TX10B/CZ41

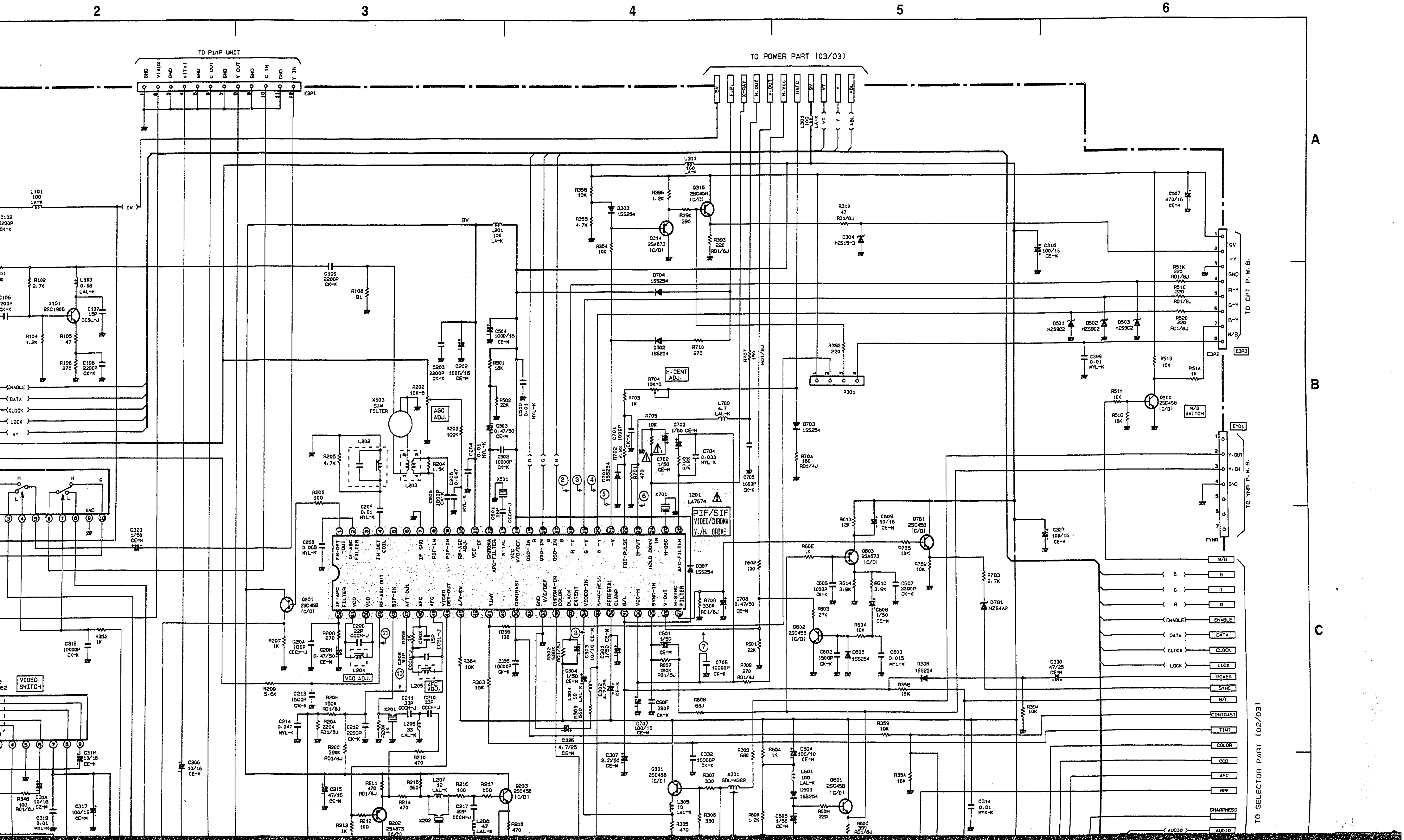
PRODUCT SAFETY NOTE: C
any of these components, rea
through improper servicing.

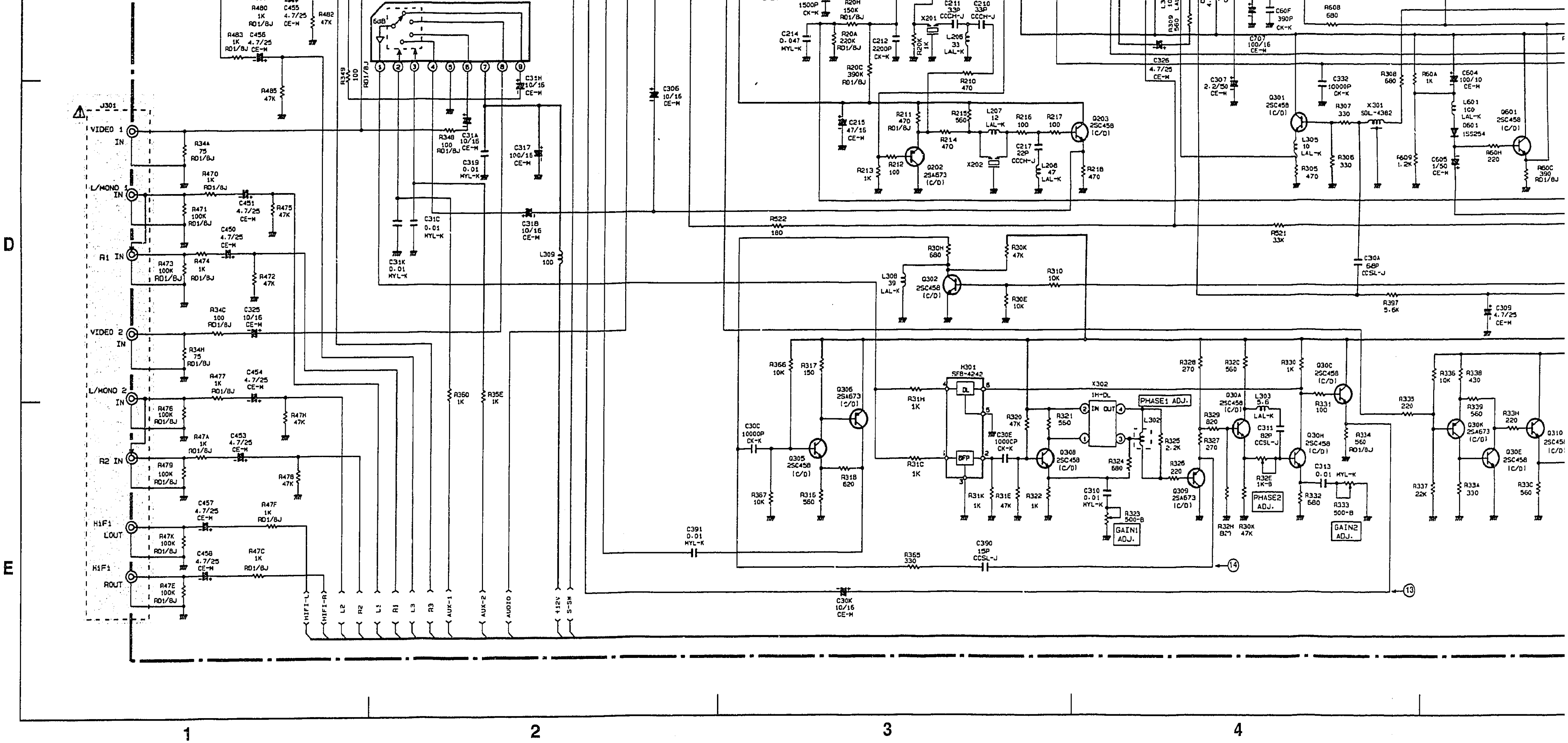


1
2
3
4
A
B
C
TO PinP UNIT
TO POWER PART (03/03)
U101 ET-352A TUNER
VHF/VHF
GND
TP15
ENABLE
DATA
CLOCK
LOCK
VT
5V
9V
12V-B
S.P.W.B.
E3S
P3S
TO CONTROL P.W.B
PFV
I301 BA7604N
Y/C SWITCH
I302 LA7952
VIDEO SWITCH
J301
VIDEO 1 IN
X103 SAW FILTER
AGC ADJ.
L202
L203
VCO ADJ.
AFC ADJ.
H. CENT ADJ.
I201 LA7574
PIF/SIF VIDEO/CHROMA V./H. DRIVE
X501
X701
X201
X202
X301 SDL-4382
P301
Q101 2SC1906
Q201 2SC458
Q202 2SA673
Q203 2SC458
Q301 2SC458
Q314 2SA673
Q315 2SC458
Q601 2SC458
Q602 2SC458
Q603 2SA673
D101 HZS33-1
D302 1SS254
D303 1SS254
D304 HZS15-3
D307 1SS254
D410 HZS12C3
D601 1SS254
D605 1SS254
D703 1SS254
D704 1SS254

CIRCUIT SCHEMATIC DIAGRAM OF 35TX10B/CZ41

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.


2
3
4
5
6
A
B
C
TO PinP UNIT
GND
V(AUX)
GND
V(TV)
GND
C OUT
GND
Y OUT
GND
C IN
GND
Y IN
E3P1
TO POWER PART (03/03)
5V
F.P.
X-RAY
H.OUT
V.OUT
H.VCC
HAFC
9V
VT
Y
ABL
L101 100 LA-K
C102 2200P CK-K
R102 2.7K
L103 0.68 LAL-M
C106 2200P CK-K
Q101 2SC1906
C107 15P CCSL-J
R104 1.2K
R105 47
R106 270
C108 2200P CK-K
ENABLE
DATA
CLOCK
LOCK
VT
C109 2200P CK-K
R108 91
9V
L201 100 LA-K
C203 2200P CK-K
C202 100C/16 CE-M
R202 10K-B
X103 SAW FILTER
AGC ADJ.
R203 100K
L202
R205 4.7K
R204 1.5K
L203
C204 0.01 MYL-K
C205 0.047
C206 1000P CK-K
R206 100
C20F 0.01 MYL-K
C504 1000/16 CE-M
R501 18K
R502 22K
C503 0.47/50 CE-M
C502 10000P CK-K
C510 0.01 MYL-K
X501
C501 18P CCCH-J
R356 10K
D303 1SS254
R355 4.7K
R354 100
R396 1.2K
Q314 2SA673 (C/D)
L311 100 LA-K
Q315 2SC458 (C/D)
R390 390
R393 220 RD1/8J
D704 1SS254
D302 1SS254
R710 270
R704 10K-B
H.CENT ADJ.
R703 1K
R705 10K
C701 1000P CK-K
R702 2.2K
D701 1SS254
R701 470
C702 1/50 CE-M
C703 1/50 CE-M
R706 8.2K
C704 0.033 MYL-K
L700 4.7 LAL-K
X701
I201 LA7674
PIF/SIF VIDEO/CHROMA V./H. DRIVE
R312 47 RD1/8J
D304 HZS15-3
R707 150
R392 220
P301
D703 1SS254
R70A 180 RD1/4J
C705 1000P CK-K
C315 100/16 CE-M
C507 470/16 CE-M
R51K 220 RD1/8J
R51E 220 RD1/8J
D501 HZS9C2
D502 HZS9C2
D503 HZS9C2
C399 0.01 MYL-K
R520 220 RD1/8J
R519 10K
R51A 1K
R51H 10K
R51C 10K
Q50C 2SC458 (C/D)
W/B SWITCH
9V
-Y
GND
R-Y
G-Y
B-Y
W/B
E3P2
TO CPT P.W.B.
EY01
Y.OUT
Y.IN
GND
PYNR
TO YNR P.W.B.
FM-DET-OUT
IF-AGC FILTER
FM-DET COIL
IF GND
PIF-IN
RF-AGC ADJ.
VCC
IF
CHROMA APC-FILTER
X-TAL
VCC V/C/DEF
OSD-IN R
OSD-IN G
OSD-IN B
R-Y
G-Y
B-Y
-Y
FBT-PULSE
H-OUT
HOLD-DOWN IN
H-OSC
AFC-FILTER
IF-APC FILTER
VCO
VCO
RF-AGC OUT
SIF-IN
AFT-OUT
AFC
VIDEO DET-OUT
A/V-SW
TINT
CONTRAST
GND
V/C/DEF
CHROMA-IN COLOR
BLACK EXTENT
VIDEO-IN
SHARPNESS
PEDESTAL CLAMP
B/L
VCC-H
SYNC-IN
V-OUT
H-SYNC FILTER
C208 0.068 MYL-K
Q201 2SC458 (C/D)
R207 1K
C20A 100P CCCH-J
R208 270
C20H 0.47/50 CE-M
C20C 22P CCCH-J
L204
VCO ADJ.
C20E 91P
C20K
C20J 15P CCSL-J
L205
AFC ADJ.
R209 5.6K
C213 1500P CK-K
R20H 150K RD1/8J
R20A 220K RD1/8J
C214 0.047 MYL-K
C212 2200P CK-K
X201
R20K 1K
C211 33P CCCH-J
C210 33P CCCH-J
L206 33 LAL-K
R20C 390K RD1/8J
R210 470
C215 47/16 CE-M
R211 470 RD1/8J
R215 560
L207 12 LAL-K
R216 100
R217 100
Q203 2SC458 (C/D)
R214 470
C217 22P CCCH-J
X202
R212 100
R213 1K
Q202 2SA673
L208 47 LAL-K
R218 470
R364 10K
R395 100
C305 10000P CK-K
R303 15K
R302 560K RD1/8J
C304 1/50 CE-M
L304 10 LAL-M
R309 560
C303 10/16 CE-M
C301 1/50 CE-M
C302 4.7/25 CE-K
C325 4.7/25 CE-M
C307 2.2/50 CE-M
C601 1/50 CE-M
R607 180K RD1/8J
C706 10000P CK-K
C60F 390P CK-K
R608 680
C707 100/16 CE-M
R709 270 RD1/4J
C332 10000P CK-M
Q301 2SC458 (C/D)
R307 330
X301 SOL-4382
L305 10 LAL-K
R306 330
R305 470
R308 680
R60A 1K
C604 100/10 CE-M
L601 100 LAL-K
D601 1SS254
Q601 2SC458 (C/D)
R60H 220
R60C 390 RD1/8J
R609 1.2K
C605 1/50 CE-M
D307 1SS254
R708 330K RD1/8J
C708 0.47/50 CE-M
R602 100
R613 12K
C609 10/16 CE-M
R60E 1K
Q603 2SA673 (C/D)
R785 10K
Q751 2SC458 (C/D)
R782 10K
C606 1000P CK-K
R614 3.9K
R610 3.9K
C607 3300P CK-K
C608 1/50 CE-M
R603 27K
R604 10K
Q602 2SC458 (C/D)
C602 1500P CK-K
D605 1SS254
C603 0.015 MYL-K
R601 22K
D308 1SS254
R358 15K
C327 100/16 CE-M
R783 2.7K
D781 HZS4A2
C330 47/25 CE-M
R39A 10K
R359 10K
R35A 18K
C314 0.01 MYK-K
C323 1/50 CE-M
C31E 10000P CK-K
R352 1K
VIDEO SWITCH
C31H 10/16 CE-M
C306 10/16 CE-M
R348 100 RD1/8J
C31A 10/16 CE-M
C317 100/16 CE-M
C319 0.01 MYL-K
W/B
B
G
R
ENABLE
DATA
CLOCK
LOCK
POWER
SYNC
B/L
CONTRAST
TINT
COLOR
CCD
AFC
BPF
SHARPNESS
AUDIO
TO SELECTOR PART (02/03)


J301
VIDEO 1 IN
L/MONO 1 IN
R1 IN
VIDEO 2 IN
L/MONO 2 IN
R2 IN
HIFI LOUT
HIFI ROUT
HIFI-L
HIFI-R
L2
R2
L1
R1
L3
R3
AUX-1
AUX-2
AUDIO
+12V
S-SW
6dB
Q202 2SA673 (C/D)
Q203 2SC458 (C/D)
Q301 2SC458 (C/D)
X301 SDL-4382
Q601 2SC458 (C/D)
D601 1SS254
Q302 2SC458 (C/D)
Q306 2SA673 (C/D)
Q305 2SC458 (C/D)
H301 SFB-4242
DL
BPF
X302 1H-DL
IN OUT
PHASE1 ADJ.
Q308 2SC458 (C/D)
Q309 2SA673 (C/D)
GAIN1 ADJ.
Q30A 2SC458 (C/D)
PHASE2 ADJ.
Q30C 2SC458 (C/D)
Q30H 2SC458 (C/D)
GAIN2 ADJ.
Q30K 2SA673 (C/D)
Q30E 2SC458 (C/D)
Q310 2SC458 (C/D)
⑬
⑭
D
E
1
2
3
4

- Since this is a basic circu
- All DC voltage to be meas

Circuit No.	Pin No.	Voltage VDC
I201	1	4.4
	2	6.8
	3	5.6
	4	5.6
	5	4.3
	6	4.0
	7	0.0
	8	4.5
	9	4.5
	10	5.8
	11	8.8
	12	5.6
	13	5.4
	14	8.9
	15	0.0
	16	0.0
	17	0.0
	18	5.0
	19	5.0
	20	5.0
	21	4.0
	22	0.4
	23	0.4
	24	0.0
	25	5.0
	26	5.7
	27	7.6
	28	4.5

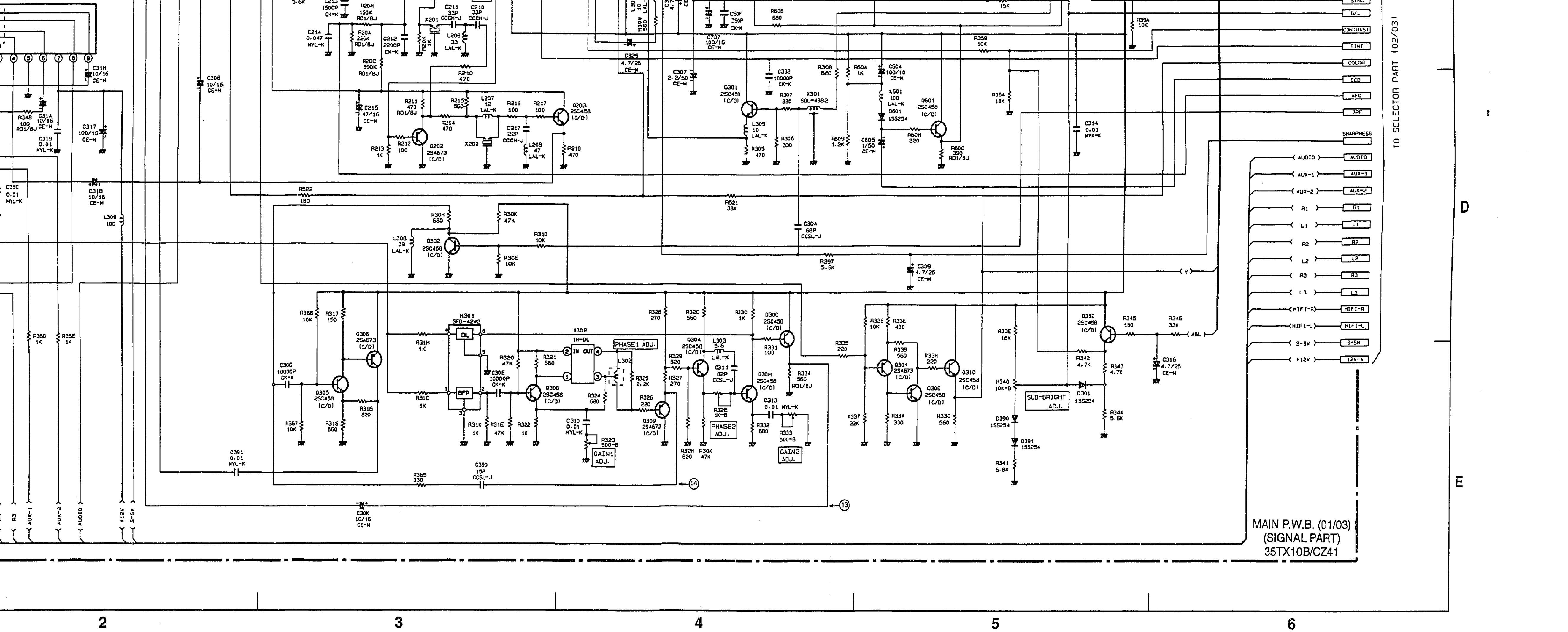
Circuit No.	Pin No.	Voltage VDC
I201	29	7.0
	30	7.6
	31	4.4
	32	2.7
	33	5.9
	34	4.3
	35	4.2
	36	4.8
	37	0.0
	38	3.5
	39	7.0
	40	4.8
	41	4.1
	42	4.8
	43	8.9
	44	3.2
	45	3.0
	46	3.0
	47	3.3
	48	3.7
	49	1.9
	50	7.9
	51	7.9
	52	4.8

Circuit No.	Pin No.	Voltage VDC
I301	1	2.3
	2	5.0
	3	2.5
	4	0.4
	5	1.7
	6	1.7
	7	0.4
	8	2.5
	9	0.0
	10	2.5

Circuit No.	Pin No.	Voltage VDC
I302	1	6.7
	2	9.4
	3	9.4
	4	3.5
	5	0.0
	6	3.1
	7	11.6
	8	3.1
	9	3.1

Circuit No.	Pin No.	Voltage VDC
Q001	B	0.7
	C	0.0
	E	0.0
Q002	B	0.0
	C	5.0
	E	0.0
Q003	B	0.0
	C	4.2
	E	0.0
Q004	B	5.0
	C	5.0
	E	5.0
Q005	B	0.7
	C	0.0
	E	0.0
Q006	B	0.5
	C	2.0
	E	0.0
Q008	B	0.5
	C	2.8
	E	0.0
Q009	B	0.0
	C	5.0
	E	0.0
Q101	B	2.3
	C	7.5
	E	1.6
Q201	B	4.4
	C	9.0
	E	3.7

Circuit No.	Pin No.	Voltage VDC
Q202	B	3.2
	C	0.0
	E	3.9
Q203	B	6.0
	C	9.0
	E	5.5
Q30A	B	3.0
	C	7.0
	E	2.0
Q30C	B	6.6
	C	9.0
	E	6.0
Q30E	B	0.7
	C	5.0
	E	0.0
Q30H	B	2.3
	C	6.6
	E	1.6
Q30K	B	6.0
	C	0.7
	E	7.0
Q301	B	1.5
	C	9.0
	E	0.5
Q302	B	0.5
	C	0.0
	E	0.0
Q303	B	0.0
	C	2.7
	E	0.0


MAIN P.W.B. (01/03)
(SIGNAL PART)
35TX10B/CZ41
TO SELECTOR PART (02/03)
PHASE1 ADJ.
PHASE2 ADJ.
GAIN1 ADJ.
GAIN2 ADJ.
SUB-BRIGHT ADJ.
SFB-4242
1H-DL
SOL-4382
AUDIO
AUX-1
AUX-2
R1
L1
R2
L2
R3
L3
HIFI-R
HIFI-L
S-SW
12V-A
SHARPNESS
BPF
AFC
CCD
COLOR
TINT
CONTRAST
B/L
ABL
D
E
2
3
4
5
6

- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.

Circuit No.	Pin No.	Voltage VDC
I201	1	4.4
	2	6.8
	3	5.6
	4	5.6
	5	4.3
	6	4.0
	7	0.0
	8	4.5
	9	4.5
	10	5.8
	11	8.8
	12	5.6
	13	5.4
	14	8.9
	15	0.0
	16	0.0
	17	0.0
	18	5.0
	19	5.0
	20	5.0
	21	4.0
	22	0.4
	23	0.4
	24	0.0
	25	5.0
	26	5.7
	27	7.6
	28	4.5
I201	29	7.0
	30	7.6
	31	4.4
	32	2.7
	33	5.9
	34	4.3
	35	4.2
	36	4.8
	37	0.0
	38	3.5
	39	7.0
	40	4.8
	41	4.1
	42	4.8
	43	8.9
	44	3.2
	45	3.0
	46	3.0
	47	3.3
	48	3.7
	49	1.9
	50	7.9
	51	7.9
	52	4.8

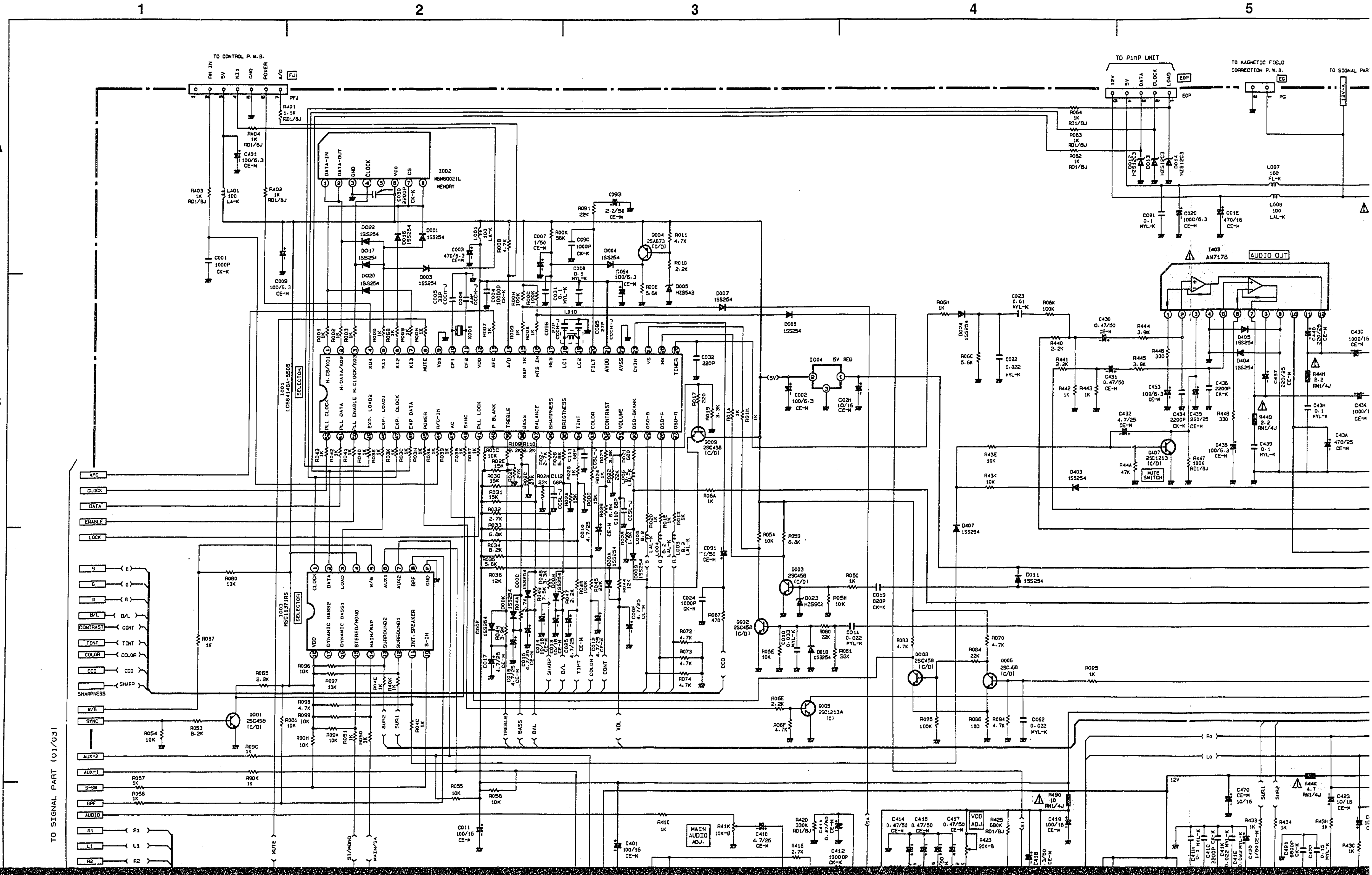
Circuit No.	Pin No.	Voltage VDC
I301	1	2.3
	2	5.0
	3	2.5
	4	0.4
	5	1.7
	6	1.7
	7	0.4
	8	2.5
	9	0.0
	10	2.5

Circuit No.	Pin No.	Voltage VDC
I302	1	6.7
	2	9.4
	3	9.4
	4	3.5
	5	0.0
	6	3.1
	7	11.6
	8	3.1
	9	3.1

Circuit No.	Pin No.	Voltage VDC
Q001	B	0.7
	C	0.0
	E	0.0
Q002	B	0.0
	C	5.0
	E	0.0
Q003	B	0.0
	C	4.2
	E	0.0
Q004	B	5.0
	C	5.0
	E	5.0
Q005	B	0.7
	C	0.0
	E	0.0
Q006	B	0.5
	C	2.0
	E	0.0
Q008	B	0.5
	C	2.8
	E	0.0
Q009	B	0.0
	C	5.0
	E	0.0
Q101	B	2.3
	C	7.5
	E	1.6
Q201	B	4.4
	C	9.0
	E	3.7
Q202	B	3.2
	C	0.0
	E	3.9
Q203	B	6.0
	C	9.0
	E	5.5
Q30A	B	3.0
	C	7.0
	E	2.0
Q30C	B	6.6
	C	9.0
	E	6.0
Q30E	B	0.7
	C	5.0
	E	0.0
Q30H	B	2.3
	C	6.6
	E	1.6
Q30K	B	6.0
	C	0.7
	E	7.0
Q301	B	1.5
	C	9.0
	E	0.5
Q302	B	0.5
	C	0.0
	E	0.0
Q303	B	0.0
	C	2.7
	E	0.0

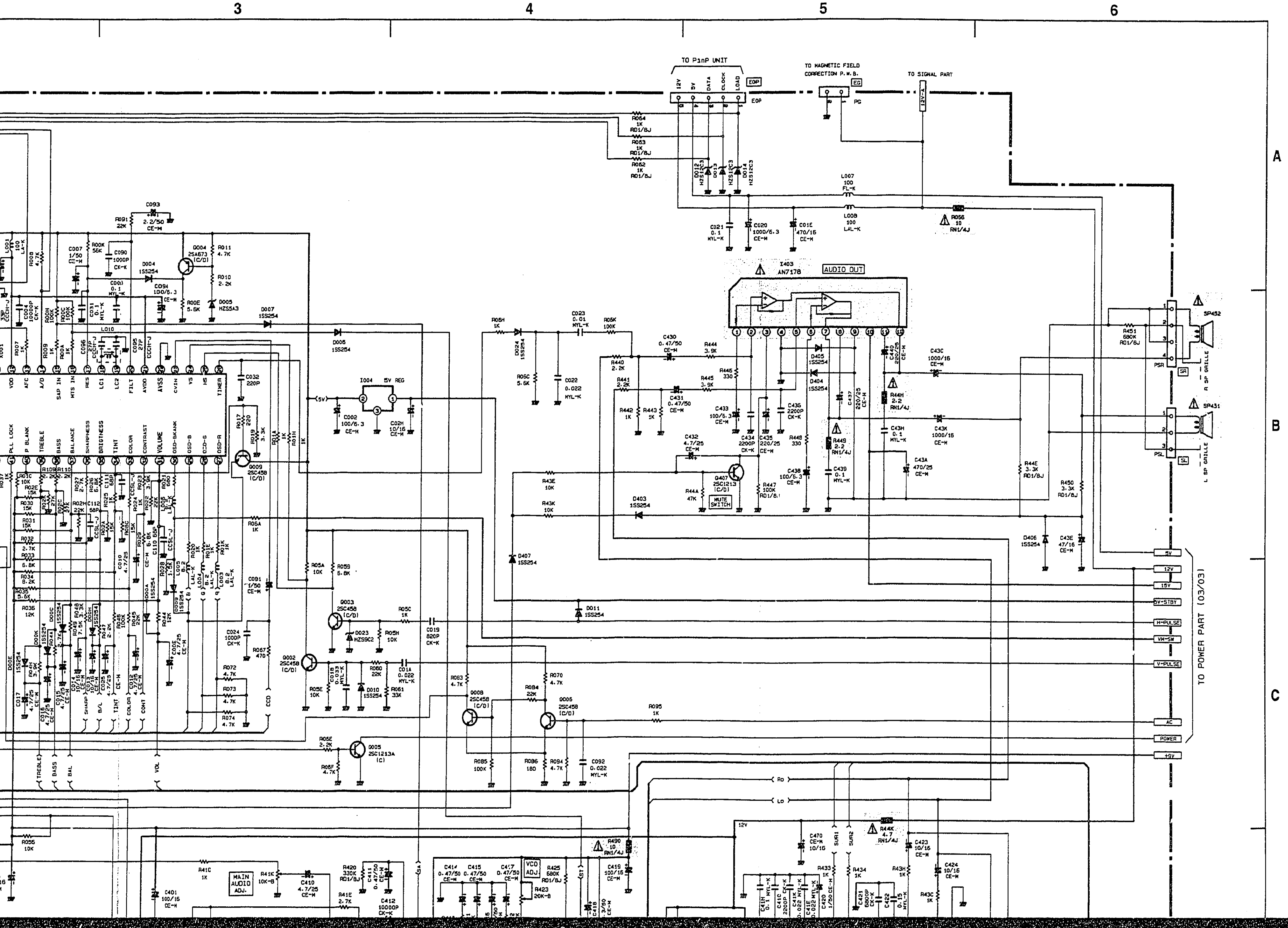
CIRCUIT SCHEMATIC DIAGRAM OF 35TX10B/CZ41

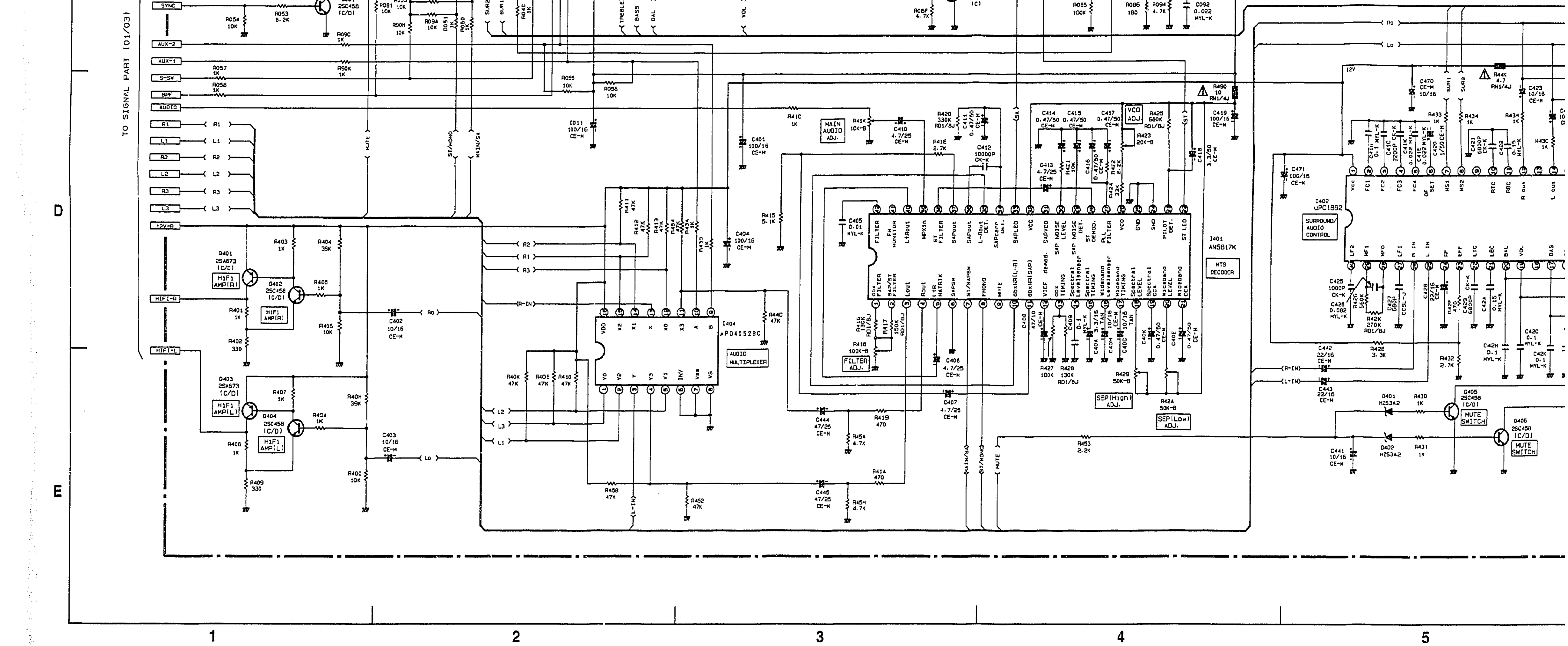
PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded
any of these components, read carefully the PRODUCT SAFETY NOTIC
through improper servicing.


1
2
3
4
5
A
B
C
TO CONTROL P.W.B.
RM IN
5V
KI1
GND
POWER
A/D
PFJ
R401 1.1K RD1/6J
R404 1K RD1/6J
C401 100/6.3 CE-M
R403 1K RD1/6J
LA01 100 LA-K
R402 1K RD1/6J
C001 1000P CK-K
C009 100/6.3 CE-M
I002 M6M80021L MEMORY
DATA-IN
DATA-OUT
GND
CLOCK
Vcc
CS
C030 2200P CK-K
D022 1SS254
D016 1SS254
D001 1SS254
D017 1SS254
D020 1SS254
D003 1SS254
C003 470/6.3 CE-M
L001 100 LA-K
R008 4.7K
C093 2.2/50 CE-M
R091 22K
C007 1/50 CE-M
R00K 56K
C090 1000P CK-K
D004 1SS254
Q004 2SA673 (C/D)
R011 4.7K
R010 2.2K
C008 0.1 MYL-K
C094 100/6.3 CE-M
R00E 5.6K
D005 HZS5A3
D007 1SS254
C005 33P
C006 33P
X001
C004 1000P CK-K
L010
C095 27P
I001 LC864148A-5505
SELECTOR
H.CS/K01
H.DATA/K02
H.CLOCK/K03
K04
KI1
KI2
KI3
MUTE
VSS
CF1
CF2
VDD
AFC
A/D
SAP IN
HTS IN
RES
LC1
LC2
FILT
AVDD
AVSS
CVIN
VS
HS
TIMER
PLL CLOCK
PLL DATA
PLL ENABLE
EXP. LOAD2
EXP. LOAD1
EXP. CLOCK
EXP DATA
POWER
R/C-IN
AC
SYNC
PLL LOCK
P BLANK
TREBLE
BALANCE
SHARPNESS
BRIGHTNESS
TINT
COLOR
CONTRAST
VOLUME
OSD-BKANK
OSD-B
OSD-G
OSD-R
C032 220P
R017 220
R019 3.3K
Q009 2SC458 (C/D)
D005 1SS254
I004 5V REG
(5V)
C002 100/6.3 CE-M
C02H 10/16 CE-M
R05M 1K
D024 1SS254
C023 0.01 MYL-K
R05K 100K
R05C 5.6K
C022 0.022 MYL-K
R43E 10K
R43K 10K
D403 1SS254
R06A 1K
D407 1SS254
R05A 10K
R059 6.8K
C091 1/50 CE-M
Q003 2SC458 (C/D)
D023 HZS9C2
R05H 10K
R05C 1K
C019 820P CK-K
D011 1SS254
C024 1000P CK-K
R067 470
Q002 2SC458 (C/D)
R05E 10K
C018 0.033 MYL-K
R060 22K
C01A 0.022 MYL-K
D010 1SS254
R061 33K
R083 4.7K
Q008 2SC458 (C/D)
R084 22K
Q005 2SC458 (C/D)
R070 4.7K
R095 1K
R06E 2.2K
Q005 2SC1213A (C)
R06F 4.7K
R085 100K
R086 180
R094 4.7K
C092 0.022 MYL-K
TO PinP UNIT
12V
5V
DATA
CLOCK
LOAD
EOP
R064 1K RD1/6J
R063 1K RD1/6J
R062 1K RD1/6J
D012 HZS12C3
D013 HZS12C3
D014 HZS12C3
TO MAGNETIC FIELD CORRECTION P.W.B.
PG
TO SIGNAL PAR
L007 100 FL-K
L008 100 LAL-K
C021 0.1 MYL-K
C020 100/6.3 CE-M
C01E 470/16 CE-M
I403 AN7178
AUDIO OUT
C430 0.47/50 CE-M
R444 3.9K
R440 2.2K
R441 2.2K
R445 3.9K
R445 330
R442 1K
R443 1K
C431 0.47/50 CE-M
C453 100/6.3
C434 2200P CK-K
C435 220/25 CE-M
C436 2200P CK-K
D405 1SS254
D404 1SS254
C437 220/25 CE-M
C440 220/25 CE-M
R44H 2.2 RN1/4J
R449 2.2 RN1/4J
R448 330
C432 4.7/25 CE-M
Q407 2SC1213 (C/D)
R44A 47K
MUTE SWITCH
R447 100K RD1/6J
C438 100/6.3 CE-M
C439 0.1 MYL-K
C43H 0.1 MYL-K
C43C 1000/16 CE-M
C43K 1000/1 CE-M
C43A 470/25 CE-M
AFC
CLOCK
DATA
ENABLE
LOCK
B
G
R
B/L
CONTRAST
CONT
TINT
COLOR
CCD
SHARP
SHARPNESS
W/B
SYNC
AUX-2
AUX-1
S-SW
BPF
AUDIO
R1
L1
R2
TO SIGNAL PART (01/G3)
R080 10K
R087 1K
I003 MSC1137IRS
SELECTOR
CLOCK
DATA
LOAD
W/B
AUX1
AUX2
BPF
GND
VDD
DYNAMIC BASS2
DYNAMIC BASS1
STEREO/MONO
MAIN/SAP
SURROUND2
SURROUND1
INT.SPEAKER
S-IN
R065 2.2K
R096 10K
R097 10K
R098 4.7K
R099 10K
R081 10K
R00H 10K
R09A 10K
R051 1K
R050 1K
R04E 1K
R04K 1K
R04C 1K
Q001 2SC458 (C/D)
R054 10K
R053 8.2K
R09C 1K
R090K 1K
R057 1K
R058 1K
R055 10K
R056 10K
C011 100/16 CE-M
C401 100/16 CE-M
MUTE
ST/MONO
MAIN/SA
SUR2
SUR1
TREBLE
BASS
BAL
VOL
SHARP
B/L
TINT
COLOR
CONT
CCD
R030 15K
R031 15K
R032 2.7K
R033 6.8K
R034 8.2K
R035 5.6K
R036 12K
R072 4.7K
R073 4.7K
R074 4.7K
C010 4.7/25
C00E 4.7/25 CE-M
C017 4.7/25
C016 4.7/25
C015 4.7/25
C025 4.7/25
C012 4.7/25
R41C 1K
MAIN AUDIO ADJ.
R41K 10K-B
C410 4.7/25 CE-M
R420 330K RD1/6J
C411 0.47/50 CE-M
R41E 2.7K
C412 10000P CK-K
C414 0.47/50 CE-M
C415 0.47/50 CE-M
C417 0.47/50 CE-M
VCO ADJ
R425 680K RD1/6J
R423 20K-B
R490 10 RN1/4J
C419 100/16 CE-M
C418
12V
C470 CE-M 10/16
SUR1
SUR2
R44K 4.7 RN1/4J
C423 10/15 CE-M
R433 1K
R434 1K
R43H 1K
R430 1K
C41C 0.1 MYL-K
C41K 2200P CK-K
C41E 0.022 MYL-K
C420 1/50 CE-M
C421 680P CK-K
C422 0.15 MYL-K
Ro
Lo

CIRCUIT SCHEMATIC DIAGRAM OF 35TX10B/CZ41

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.


3
4
5
6
A
B
C
TO PinP UNIT
12V
5V
DATA
CLOCK
LOAD
EOP
TO MAGNETIC FIELD CORRECTION P.W.B.
EG
PG
TO SIGNAL PART
12V-A
I403
AN7178
AUDIO OUT
I004
5V REG
SP452
SP431
PSR
PSL
SR
SL
R SP GRILLE
L SP GRILLE
MUTE SWITCH
TO POWER PART (03/03)
5V
12V
15V
5V-STBY
H-PULSE
VM-SW
V-PULSE
AC
POWER
+9V
Ro
Lo
MAIN AUDIO ADJ.
VCO ADJ
SUR1
SUR2
VDD
AFC
A/D
SAP IN
MTS IN
RES
LC1
LC2
FILT
AVDD
AVSS
CVIN
VS
HS
TIMER
PLL LOCK
P BLANK
TREBLE
BASS
BALANCE
SHARPNESS
BRIGHTNESS
TINT
COLOR
CONTRAST
VOLUME
OSD-BKANK
OSD-B
OSD-G
OSD-R
SHARP
B/L
TINT
COLOR
CONT
TREBLE
BASS
BAL
VOL
Q004 2SA673 (C/D)
Q009 2SC458 (C/D)
Q003 2SC458 (C/D)
Q002 2SC458 (C/D)
Q008 2SC458 (C/D)
Q006 2SC458 (C/D)
Q005 2SC1213A (C)
Q407 2SC1213 (C/D)
R095 1K


TO SIGNAL PART (01/03)
SYNC
AUX-2
AUX-1
S-SW
BPF
AUDIO
R1
L1
R2
L2
R3
L3
12V-B
HIFI-R
HIFI-L
Q401 2SA673 (C/D) HiFi AMP(R)
Q402 2SC458 (C/D) HiFi AMP(R)
Q403 2SA673 (C/D) HiFi AMP(L)
Q404 2SC458 (C/D) HiFi AMP(L)
I404 μPD4052BC AUDIO MULTIPLEXER
I401 AN5817K MTS DECODER
MAIN AUDIO ADJ.
FILTER ADJ.
VCO ADJ
SEP(High) ADJ.
SEP(Low) ADJ.
I402 μPC1892 SURROUND/AUDIO CONTROL
Q405 2SC458 (C/D) MUTE SWITCH
Q406 2SC458 (C/D) MUTE SWITCH
D401 HZS3A2
D402 HZS3A2
MUTE
ST/MONO
MAIN/SA
D
E
1
2
3
4
5

- Since this is a basic circuit diagram, the value of the parts is subject
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taker

Circuit No.	Pin No.	Voltage VDC
I001	1	5.0
	2	5.0
	3	5.0
	4	5.0
	5	12mv
	6	12mv
	7	12mv
	8	-3mv
	9	0.0
	10	2.5
	11	2.5
	12	5.0
	13	2.2
	14	5.0
	15	0.5
	16	0.5
	17	5.0
	18	2.3
	19	2.3
	20	2.5
	21	5.0
	22	0.0
	23	3.0
	24	5.0
	25	4.2
	26	0.0
	27	0.0
	28	0.0

Circuit No.	Pin No.	Voltage VDC
I001	29	0.0
	30	0.0
	31	42mv
	32	7.0
	33	4.4
	34	3.0
	35	2.3
	36	4.1
	37	1.5
	38	1.8
	39	1.8
	40	47mv
	41	120mv
	42	85mv
	43	2.3
	44	5.0
	45	5.0
	46	5.0
	47	0.3
	48	2.5mv
	49	5mv
	50	180mv
	51	5.0
	52	5.0

Circuit No.	Pin No.	Voltage VDC
I002	1	5.0
	2	5.0
	3	0.0
	4	5.0
	5	5.0
	6	5.0
	7	5.0
	8	5.0

Circuit No.	Pin No.	Voltage VDC
I003	1	0.3
	2	5.0
	3	2.4mv
	4	5.0
	5	1.5mv
	6	9.5
	7	9.5
	8	0.0
	9	0.0
	10	1.2mv
	11	3.5mv
	12	0.0
	13	0.0
	14	5.0
	15	3.5
	16	—
	17	—
	18	5.0

Circuit No.	Pin No.	Voltage VDC
I004	1	15.0
	2	5.0
	3	0.0

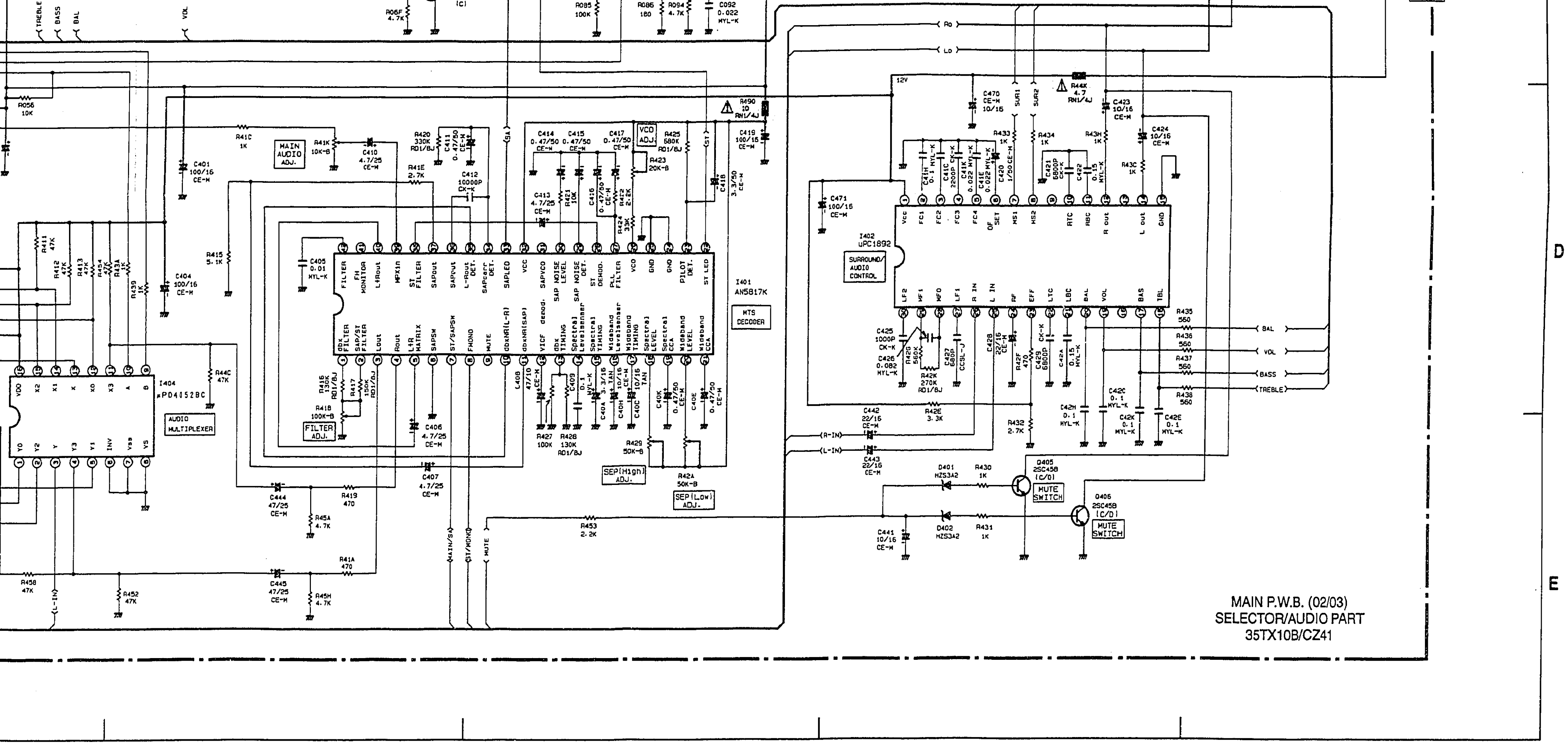
Circuit No.	Pin No.	Voltage VDC
I403	1	5.3
	2	9.9
	3	15.0
	4	0.0
	5	10.5
	6	5.8
	7	1.3
	8	0.0
	9	0.0
	10	12.0
	11	0.0
	12	1.3

Circuit No.	Pin No.	Voltage VDC
I401	1	1.2
	2	1.2
	3	5.0
	4	5.0
	5	5.0
	6	0.0
	7	5.0
	8	3.5
	9	—
	10	4.5
	11	5.0
	12	5.0
	13	1.2
	14	5.0
	15	0.3
	16	5.0
	17	0.6
	18	8.0
	19	5.0
	20	8.0
	21	5.0
	22	0.0
	23	7.0
	24	0.0
	25	0.0
	26	8.3
	27	5.0
	28	5.0
	29	3.0

Circuit No.	Pin No.	Voltage VDC
I401	30	3.0
	31	—
	32	9.5
	33	0.0
	34	3.8
	35	4.5
	36	0.5
	37	3.8
	38	4.2
	39	5.0
	40	4.0
	41	—
	42	5.0

Circuit No.	Pin No.	Voltage VDC
I402	1	12.0
	2	6.0
	3	6.0
	4	6.0
	5	6.0
	6	6.0
	7	0.0
	8	0.0
	9	6.0
	10	6.0
	11	6.0
	12	6.0
	13	—
	14	6.0
	15	0.0
	16	3.0
	17	3.0
	18	—
	19	0.0
	20	2.2
	21	6.0
	22	6.0
	23	5.2
	24	6.0
	25	6.0
	26	6.0
	27	6.0
	28	6.0
	29	6.0
	30	6.0

Circuit No.	Pi N
I404	


I401
AN5817K
MTS DECODER
I402
uPC1892
SURROUND/ AUDIO CONTROL
I404
μPD4052BC
AUDIO MULTIPLEXER
MAIN AUDIO ADJ.
VCO ADJ.
FILTER ADJ.
SEP(High) ADJ.
SEP(Low) ADJ.
Q405
2SC458 (C/D)
MUTE SWITCH
Q406
2SC458 (C/D)
MUTE SWITCH
D401
HZS3A2
D402
HZS3A2
BAL
VOL
BASS
TREBLE
(R-IN)
(L-IN)
MAIN/SAP
ST/MONO
MUTE
12V
D
E
3
4
5
6

MAIN P.W.B. (02/03)
SELECTOR/AUDIO PART
35TX10B/CZ41

- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.

Voltage VDC
5.0
5.0
5.0
5.0
12mv
12mv
12mv
-3mv
0.0
2.5
2.5
5.0
2.2
5.0
0.5
0.5
5.0
2.3
2.3
2.5
5.0
0.0
3.0
5.0
4.2
0.0
0.0
0.0

Circuit No.	Pin No.	Voltage VDC
I001	29	0.0
	30	0.0
	31	42mv
	32	7.0
	33	4.4
	34	3.0
	35	2.3
	36	4.1
	37	1.5
	38	1.8
	39	1.8
	40	47mv
	41	120mv
	42	85mv
	43	2.3
	44	5.0
	45	5.0
	46	5.0
	47	0.3
	48	2.5mv
	49	5mv
	50	180mv
	51	5.0
	52	5.0

Circuit No.	Pin No.	Voltage VDC
I002	1	5.0
	2	5.0
	3	0.0
	4	5.0
	5	5.0
	6	5.0
	7	5.0
	8	5.0

Circuit No.	Pin No.	Voltage VDC
I003	1	0.3
	2	5.0
	3	2.4mv
	4	5.0
	5	1.5mv
	6	9.5
	7	9.5
	8	0.0
	9	0.0
	10	1.2mv
	11	3.5mv
	12	0.0
	13	0.0
	14	5.0
	15	3.5
	16	—
	17	—
	18	5.0

Circuit No.	Pin No.	Voltage VDC
I004	1	15.0
	2	5.0
	3	0.0

Circuit No.	Pin No.	Voltage VDC
I403	1	5.3
	2	9.9
	3	15.0
	4	0.0
	5	10.5
	6	5.8
	7	1.3
	8	0.0
	9	0.0
	10	12.0
	11	0.0
	12	1.3

Circuit No.	Pin No.	Voltage VDC
I401	1	1.2
	2	1.2
	3	5.0
	4	5.0
	5	5.0
	6	0.0
	7	5.0
	8	3.5
	9	—
	10	4.5
	11	5.0
	12	5.0
	13	1.2
	14	5.0
	15	0.3
	16	5.0
	17	0.6
	18	8.0
	19	5.0
	20	8.0
	21	5.0
	22	0.0
	23	7.0
	24	0.0
	25	0.0
	26	8.3
	27	5.0
	28	5.0
	29	3.0

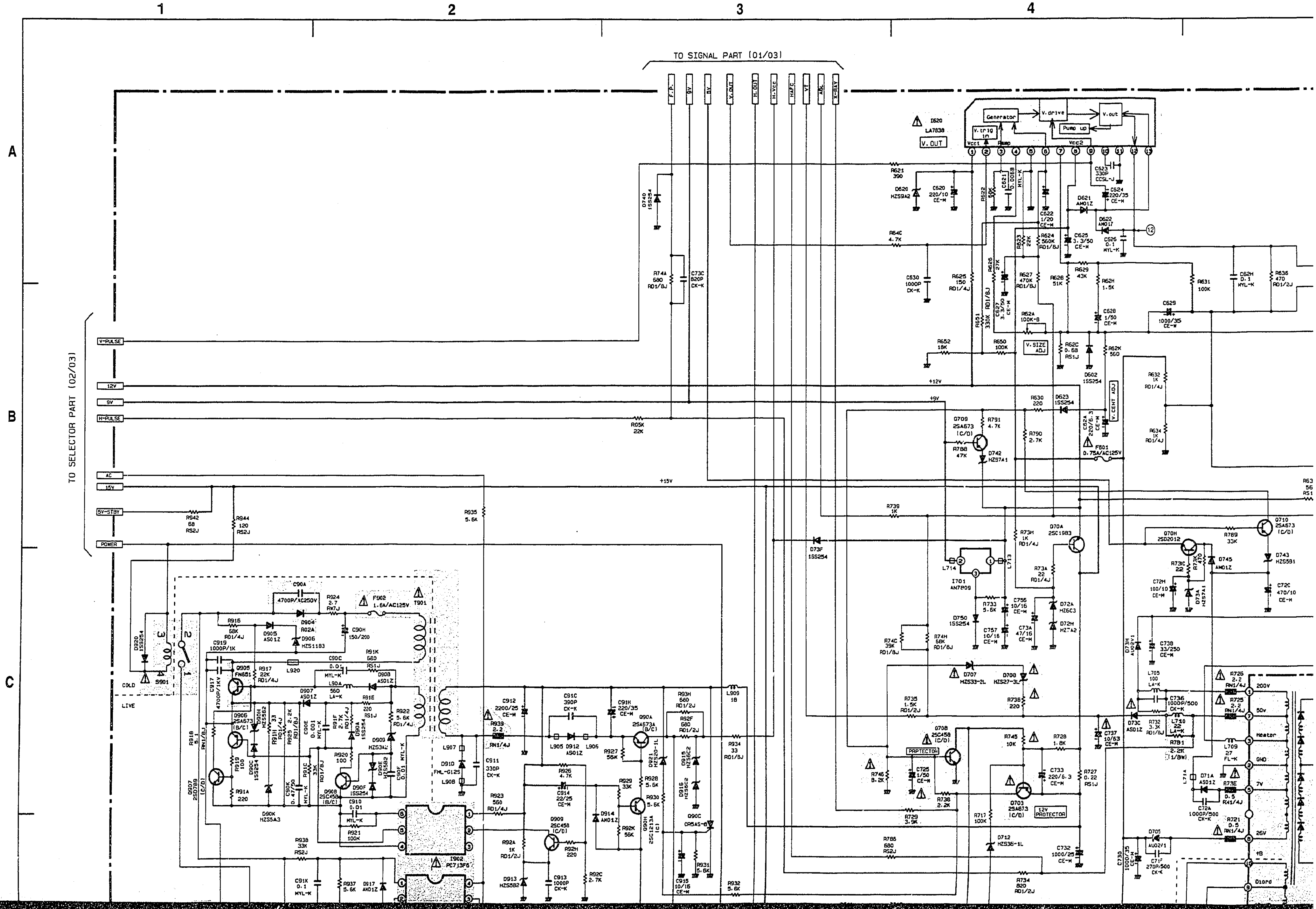
Circuit No.	Pin No.	Voltage VDC
I401	30	3.0
	31	—
	32	9.5
	33	0.0
	34	3.8
	35	4.5
	36	0.5
	37	3.8
	38	4.2
	39	5.0
	40	4.0
	41	—
	42	5.0

Circuit No.	Pin No.	Voltage VDC
I402	1	12.0
	2	6.0
	3	6.0
	4	6.0
	5	6.0
	6	6.0
	7	0.0
	8	0.0
	9	6.0
	10	6.0
	11	6.0
	12	6.0
	13	—
	14	6.0
	15	0.0
	16	3.0
	17	3.0
	18	—
	19	0.0
	20	2.2
	21	6.0
	22	6.0
	23	5.2
	24	6.0
	25	6.0
	26	6.0
	27	6.0
	28	6.0
	29	6.0
	30	6.0

Circuit No.	Pin No.	Voltage VDC
I404	1	6.0
	2	6.0
	3	6.0
	4	6.0
	5	6.0
	6	0.0
	7	0.0
	8	0.0
	9	9.5
	10	9.5
	11	6.0
	12	6.0
	13	6.0
	14	6.0
	15	6.0
	16	12.0

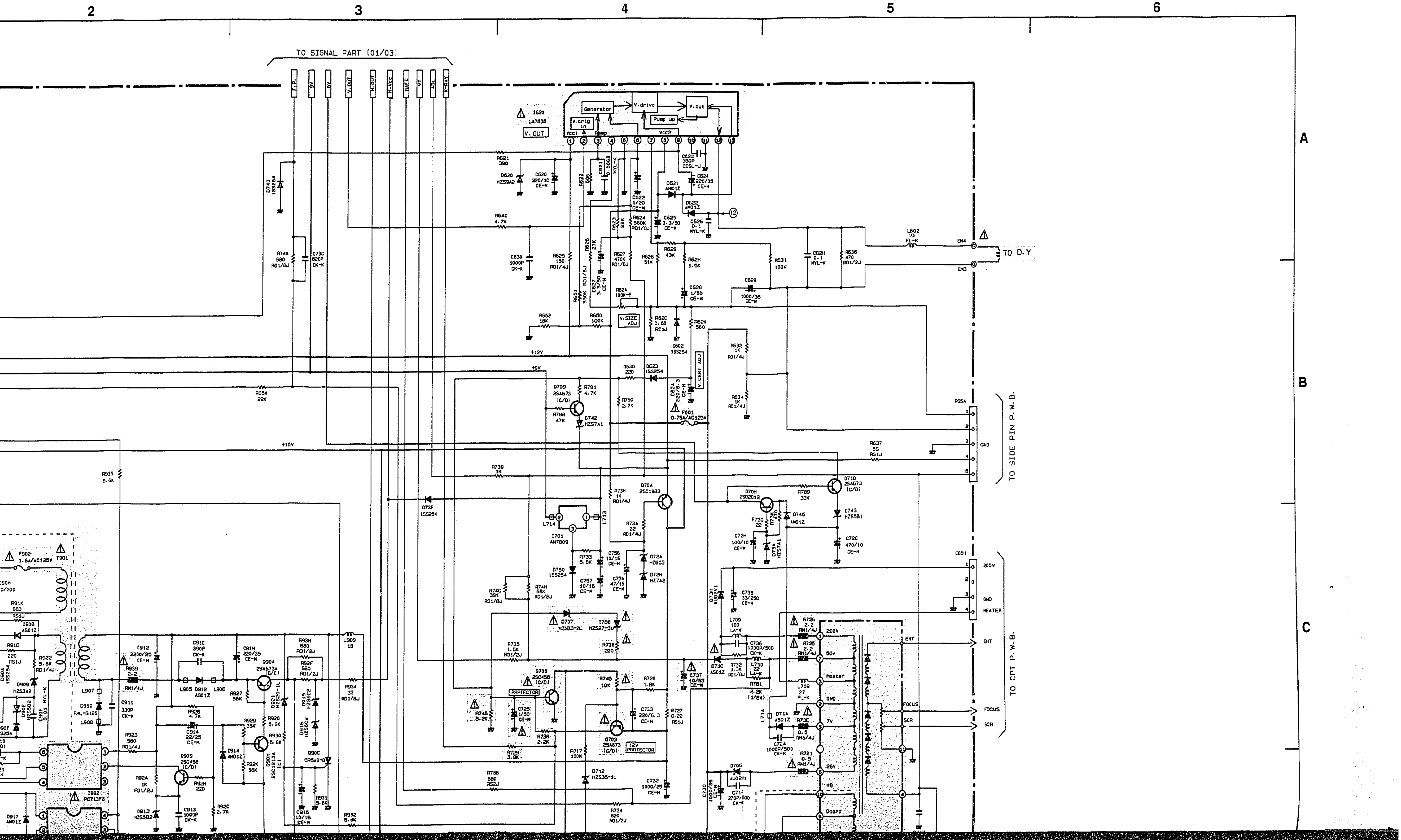
CIRCUIT SCHEMATIC DIAGRAM OF 35TX10B/CZ41

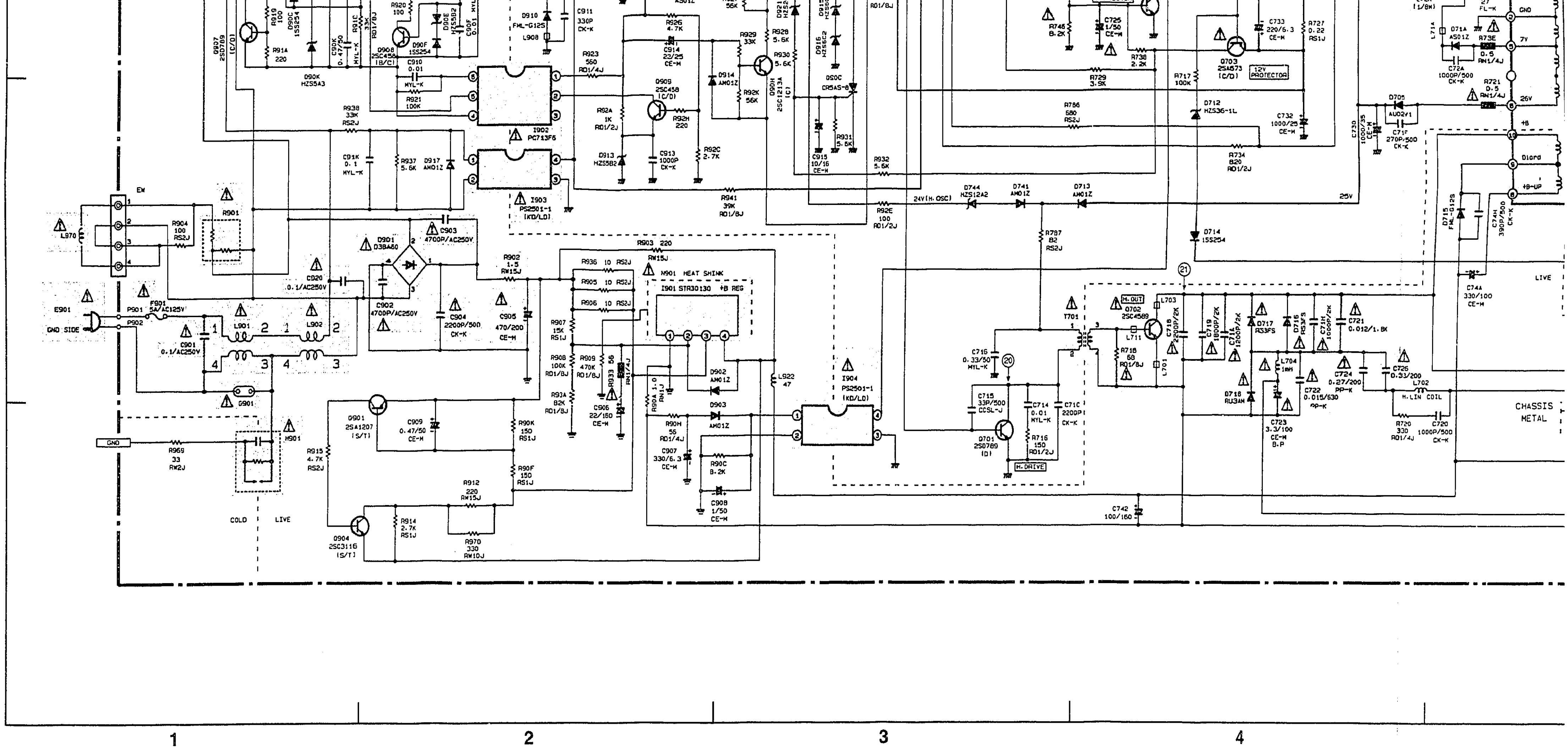
PRODUCT SAFETY NOTE: Comp
any of these components, read ca
through improper servicing.


1
2
3
4
A
B
C
TO SIGNAL PART (01/03)
F.P.
9V
BY
V.OUT
H.OUT
H.Vcc
HAFC
VT
ABL
X-RAY
TO SELECTOR PART (02/03)
V-PULSE
12V
9V
H-PULSE
AC
15V
5V-STBY
POWER
I620 LA7838
V.OUT
Generator
V.drive
V.out
Pump up
V.trig in
Vcc1
Ramp
Vcc2
V.SIZE ADJ
V.CENT ADJ
F601 0.75A/AC125V
+12V
+9V
+15V
I701 AN7809
PROTECTOR
12V PROTECTOR
F902 1.6A/AC125V
T901
S901
COLD
LIVE
I902 PC713F6
200V
50V
Heater
GND
7V
26V
+B
Diord

CIRCUIT SCHEMATIC DIAGRAM OF 35TX10B/CZ41

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.


2
3
4
5
6
A
B
C
TO SIGNAL PART (01/03)
F.P.
9V
8V
V.OUT
H.OUT
H.VCC
HAFC
VT
ABL
X-RAY
I620
LA7838
V.OUT
Generator
V.drive
V.out
Pump up
V.trig in
Vcc1
Ramp
Vcc2
TO D.Y
V.SIZE ADJ
V.CENT ADJ
F601 0.75A/AC125V
+12V
+9V
+15V
GND
TO SIDE PIN P.W.B.
I701 AN7809
PROTECTOR
12V PROTECTOR
200V
GND
HEATER
EHT
FOCUS
SCR
TO CPT P.W.B.
50v
Heater
7V
26V
+B
Diord
F902 1.6A/AC125V
T901
I902 PC713F8


D
E
1
2
3
4
E901
GND SIDE
P901
P902
F901 5A/AC125V
L970
EW
R904 100 RS2J
R901
D901 D3SA60
C903 4700P/AC250V
C901 0.1/AC250V
C902 4700P/AC250V
C904 2200P/500 CK-K
C905 470/200 CE-M
C920 0.1/AC250V
L901
L902
G901
H901
GND
R969 33 RW2J
COLD
LIVE
R902 1.5 RW15J
R903 220 RW15J
R936 10 RS2J
R905 10 RS2J
R906 10 RS2J
H901 HEAT SHINK
I901 STR30130 +B REG
R907 15K RS1J
R908 100K RD1/8J
R909 470K RD1/8J
R933 56
R93A 82K RD1/8J
C906 22/160 CE-M
L922 47
D902 AM01Z
D903 AM01Z
R90H 56 RD1/4J
C907 330/6.3 CE-M
R90C 8.2K
C908 1/50 CE-M
I904 PS2501-1 (KD/LD)
Q901 2SA1207 (S/T)
C909 0.47/50 CE-M
R90K 150 RS1J
R90F 150 RS1J
R915 4.7K RS2J
R912 220 RW15J
Q904 2SC3116 (S/T)
R914 2.7K RS1J
R970 330 RW10J
I902 PC713F6
I903 PS2501-1 (KD/LD)
C91K 0.1 MYL-K
R937 5.6K
D917 AM01Z
R938 33K RS2J
C910 0.01 MYL-K
R921 100K
Q908 2SC458 (B/C)
Q90F 1SS254
D90K HZS5A3
Q907 2SD709 (C/D)
R91A 220
D910 FML-G12S
L908
C911 330P CK-K
R923 560 RD1/4J
R926 4.7K
C914 22/25 CE-M
Q909 2SC458 (C/D)
R92A 1K RD1/2J
R92H 220
D913 HZS5B2
C913 1000P CK-K
R92C 2.7K
D914 AM01Z
R929 33K
R92K 56K
R928 5.6K
R930 5.6K
Q90H 2SC2313A (C)
C915 10/16 CE-M
R931 5.6K
R932 5.6K
R941 39K RD1/8J
R92E 100 RD1/2J
24V(H.OSC)
D744 HZS12A2
D741 AM01Z
D713 AM01Z
R787 82 RS2J
D714 1SS254
25V
T701
Q702 2SC4589
H.OUT
L703
L711
R718 68 RD1/8J
C718 2200P/2K
C719 1000P/2K
C71K 1000P/2K
D717 RS3FS
D716 RS3FS
C71H 1000P/2K
C721 0.012/1.8K
C715 0.33/50 MYL-K
C715 33P/500 CCSL-J
C714 0.01 MYL-K
C71C 2200P CK-K
Q701 2SD789 (D)
R716 150 RD1/2J
H.DRIVE
L701
L704 1mH
D718 RU3AM
C722 0.015/630 PP-K
C724 0.27/200 PP-K
C723 3.3/100 CE-M B.P
C726 0.31/200
L702 H.LIN COIL
R720 330 RD1/4J
C720 1000P/500 CK-K
C742 100/160
CHASSIS METAL
LIVE
C74A 330/100 CE-M
D715 FML-G12S
C74H 390P/500 CK-K
D705 AU02V1
C71F 270P/500 CK-K
C730 1000/35 CE-M
R734 820 RD1/2J
C732 1000/25 CE-M
D712 HZS36-1L
R717 100K
R729 3.9K
R786 680 RS2J
Q703 2SA673 (C/D)
12V PROTECTOR
C733 220/6.3 CE-M
R727 0.22 RS1J
R738 2.2K
C725 1/50 CE-M
R745 8.2K
D71A AS01Z
R73E 0.5 RN1/4J
C72A 1000P/500 CK-K
R721 0.5 RN1/4J
GND
7V
25V
+B
Diord
+B-UP

Circuit No.	Pin No.	Voltage VDC
I620	1	1.3
	2	0.9
	3	0.6
	4	0.5
	5	0.0
	6	0.6
	7	0.6
	8	5.0
	9	0.5
	10	0.5
	11	0.0
	12	2.5
	13	5.0

Circuit No.	Pin No.	Voltage VDC
I701	1	12.0
	2	9.0
	3	0.5

Circuit No.	Pin No.	Voltage VDC
I901	1	0.0
	2	130
	3	160
	4	130

Circuit No.	Pin No.	Voltage VDC
I902	1	14.0
	2	13.0
	3	—
	4	0.0
	5	2.0
	6	0.0

Circuit No.	Pin No.	Voltage VDC
I903	1	1.2
	2	0.5
	3	0.5
	4	0.0

Circuit No.	Pin No.	Voltage VDC
I904	1	-60.0
	2	-60.0
	3	0.0
	4	15.0

Circuit No.	Pin No.	Voltage VDC
Q305	B	4.0
	C	8.0
	E	4.0
Q306	B	8.0
	C	9.0
	E	5.0
Q308	B	4.0
	C	7.0
	E	3.0
Q309	B	3.5
	C	0.0
	E	4.0
Q310	B	5.0
	C	9.0
	E	4.6
Q312	B	10.0
	C	9.0
	E	9.0
Q314	B	4.0
	C	0.0
	E	4.5
Q315	B	4.5
	C	9.0
	E	3.8
Q401	B	12.0
	C	6.5
	E	12.0

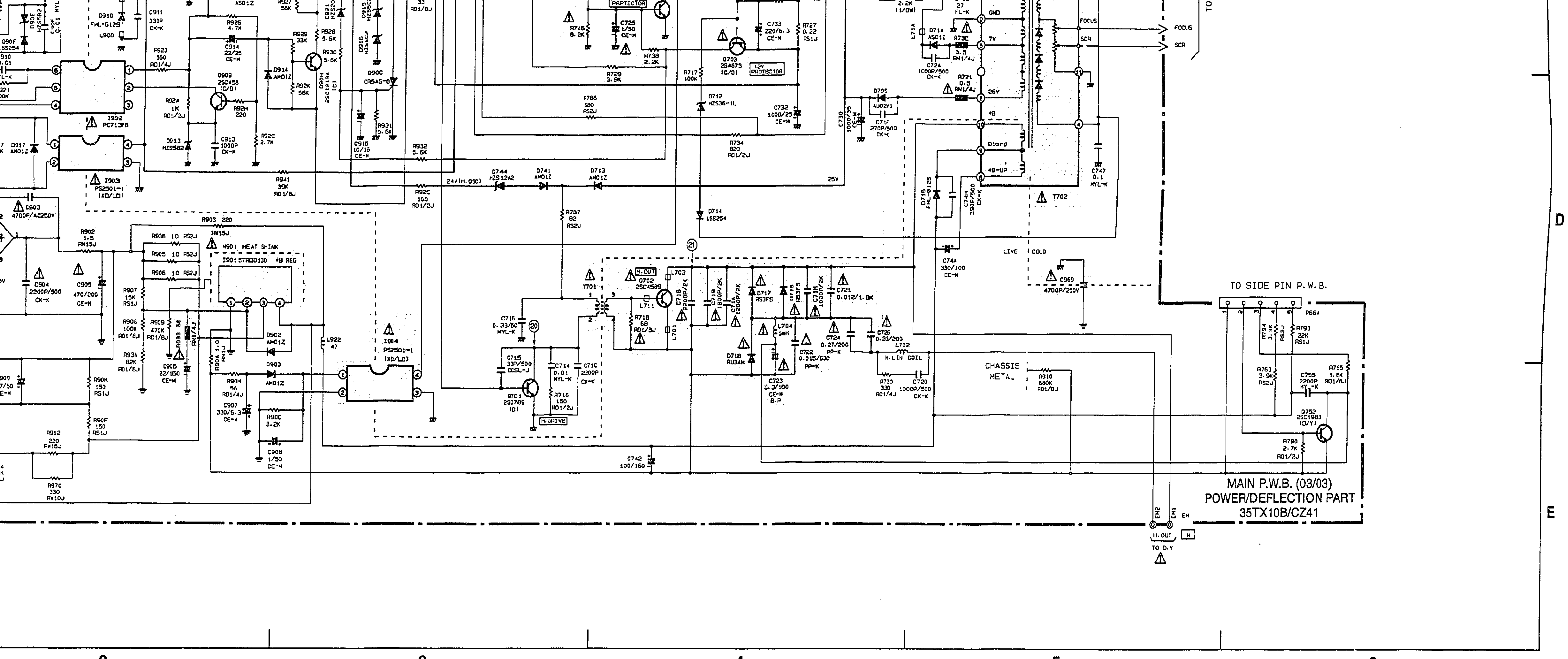
Circuit No.	Pin No.	Voltage VDC
Q402	B	2.4
	C	11.0
	E	1.7
Q403	B	12.0
	C	6.0
	E	12.0
Q404	B	2.4
	C	11.0
	E	1.7
Q405	B	0.5
	C	0.0
	E	0.0

Circuit No.	Pin No.	Voltage VDC
Q406	B	0.5
	C	0.0
	E	0.0
Q407	B	0.0
	C	15.0
	E	0.0
Q50C	B	0.0
	C	6.5
	E	0.0
Q601	B	5.2
	C	9.0
	E	4.5
Q602	B	0.0
	C	4.4
	E	0.0
Q603	B	5.0
	C	1.3
	E	4.5
Q70A	B	12.0
	C	15.0
	E	12.0

Circuit No.	Pin No.	Voltage VDC
Q70H	B	5.7
	C	7.5
	E	5.0
Q701	B	0.3
	C	17.0
	E	0.0
Q702	B	-60.0
	C	41.0
	E	-60.0
Q703	B	15.0
	C	0.0
	E	15.0
Q708	B	0.0
	C	15.0
	E	0.0
Q709	B	9.0
	C	0.0
	E	8.0
Q710	B	5.0
	C	0.0
	E	5.0
Q752 (35V)	B	-60.0
	C	-44.0
	E	-60.0
Q761	B	7.6
	C	9.0
	E	7.0

- Since this is a basic cir
- All DC voltage to be me

Circuit No.	Pin No.	Voltage VDC
Q90A	B	40.0
	C	11.0
	E	40.0
Q90C	B	0.0
	C	15.0
	E	0.0
Q90H	B	0.0
	C	40.0
	E	0.0
Q901	B	57.0
	C	57.0
	E	57.0
Q904	B	33.0
	C	34.0
	E	33.0
Q905	B	0.0
	C	122.0
	E	0.0
Q906	B	0.0
	C	0.5
	E	0.5
Q907	B	0.0
	C	0.5
	E	0.0
Q908	B	0.0
	C	2.0
	E	0.0
Q909	B	5.5
	C	12.0
	E	5.5


MAIN P.W.B. (03/03)
POWER/DEFLECTION PART
35TX10B/CZ41
TO SIDE PIN P.W.B.
CHASSIS METAL
H.OUT
TO D.Y
FOCUS
SCR
LIVE
COLD
I901 STR30130 HB REG
N901 HEAT SHINK
I902 PC713F6
I903 PS2501-1 (KD/LD)
I904 PS2501-1 (KD/LD)
Q701 2SD789 (D)
Q702 2SC4589
Q703 2SA673 (C/D)
Q752 2SC1983 (D/Y)
Q909 2SC458 (C/D)
T701
T702
L702 H.LIN COIL
H.DRIVE
H.OUT
PROTECTOR
12V PROTECTOR
24V(H.OSC)
25V
26V
7V
+B
+B-UP
D
E
2
3
4
5
6

- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.

uit	Pin No.	Voltage VDC
	1	1.3
	2	0.9
	3	0.6
	4	0.5
	5	0.0
	6	0.6
0	7	0.6
	8	5.0
	9	0.5
	10	0.5
	11	0.0
	12	2.5
	13	5.0

uit	Pin No.	Voltage VDC
	1	12.0
1	2	9.0
	3	0.5

uit	Pin No.	Voltage VDC
	1	0.0
	2	130
1	3	160
	4	130

Circuit No.	Pin No.	Voltage VDC
I902	1	14.0
	2	13.0
	3	—
	4	0.0
	5	2.0
	6	0.0

Circuit No.	Pin No.	Voltage VDC
I903	1	1.2
	2	0.5
	3	0.5
	4	0.0

Circuit No.	Pin No.	Voltage VDC
I904	1	-60.0
	2	-60.0
	3	0.0
	4	15.0

Circuit No.	Pin No.	Voltage VDC
Q305	B	4.0
	C	8.0
	E	4.0
Q306	B	8.0
	C	9.0
	E	5.0
Q308	B	4.0
	C	7.0
	E	3.0
Q309	B	3.5
	C	0.0
	E	4.0
Q310	B	5.0
	C	9.0
	E	4.6
Q312	B	10.0
	C	9.0
	E	9.0
Q314	B	4.0
	C	0.0
	E	4.5
Q315	B	4.5
	C	9.0
	E	3.8
Q401	B	12.0
	C	6.5
	E	12.0

Circuit No.	Pin No.	Voltage VDC
Q402	B	2.4
	C	11.0
	E	1.7
Q403	B	12.0
	C	6.0
	E	12.0
Q404	B	2.4
	C	11.0
	E	1.7
Q405	B	0.5
	C	0.0
	E	0.0

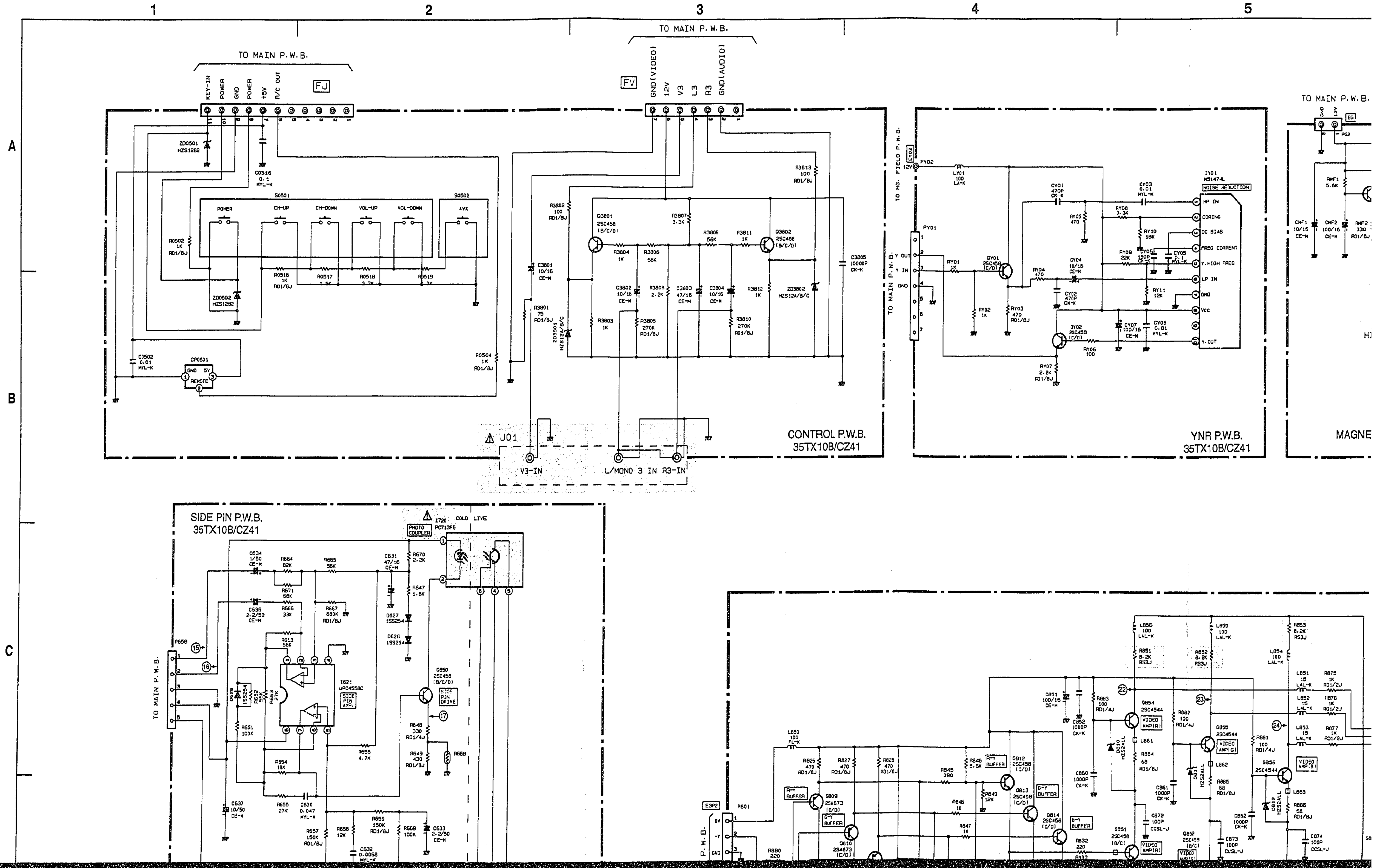
Circuit No.	Pin No.	Voltage VDC
Q406	B	0.5
	C	0.0
	E	0.0
Q407	B	0.0
	C	15.0
	E	0.0
Q50C	B	0.0
	C	6.5
	E	0.0
Q601	B	5.2
	C	9.0
	E	4.5
Q602	B	0.0
	C	4.4
	E	0.0
Q603	B	5.0
	C	1.3
	E	4.5
Q70A	B	12.0
	C	15.0
	E	12.0

Circuit No.	Pin No.	Voltage VDC
Q70H	B	5.7
	C	7.5
	E	5.0
Q701	B	0.3
	C	17.0
	E	0.0
Q702	B	-60.0
	C	41.0
	E	-60.0
Q703	B	15.0
	C	0.0
	E	15.0
Q708	B	0.0
	C	15.0
	E	0.0
Q709	B	9.0
	C	0.0
	E	8.0
Q710	B	5.0
	C	0.0
	E	5.0
Q752 (35V)	B	-60.0
	C	-44.0
	E	-60.0
Q761	B	7.6
	C	9.0
	E	7.0

Circuit No.	Pin No.	Voltage VDC
Q90A	B	40.0
	C	11.0
	E	40.0
Q90C	B	0.0
	C	15.0
	E	0.0
Q90H	B	0.0
	C	40.0
	E	0.0
Q901	B	57.0
	C	57.0
	E	57.0
Q904	B	33.0
	C	34.0
	E	33.0
Q905	B	0.0
	C	122.0
	E	0.0
Q906	B	0.0
	C	0.5
	E	0.5
Q907	B	0.0
	C	0.5
	E	0.0
Q908	B	0.0
	C	2.0
	E	0.0
Q909	B	5.5
	C	12.0
	E	5.5

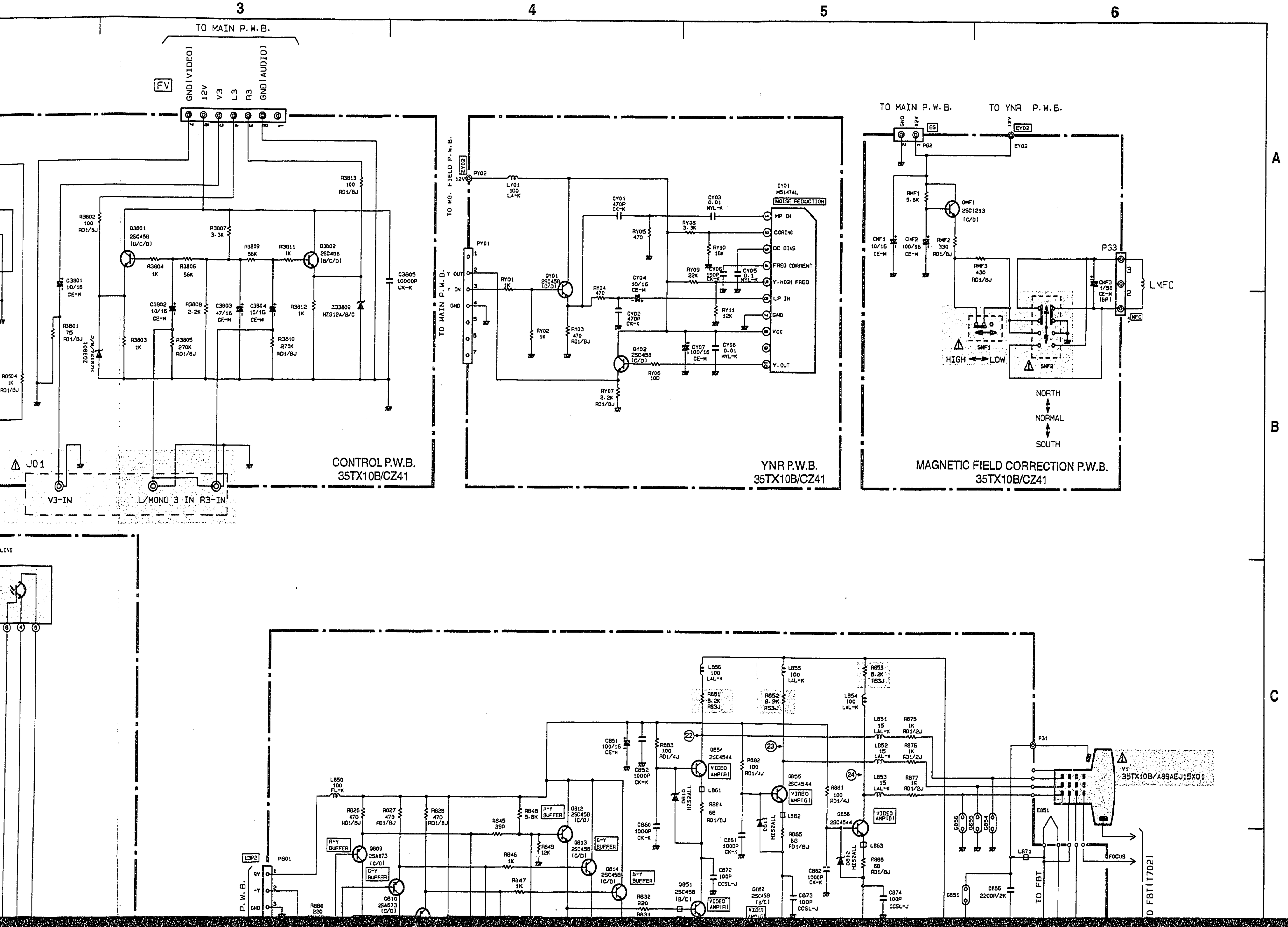
CIRCUIT SCHEMATIC DIAGRAM OF 35TX10B/CZ41

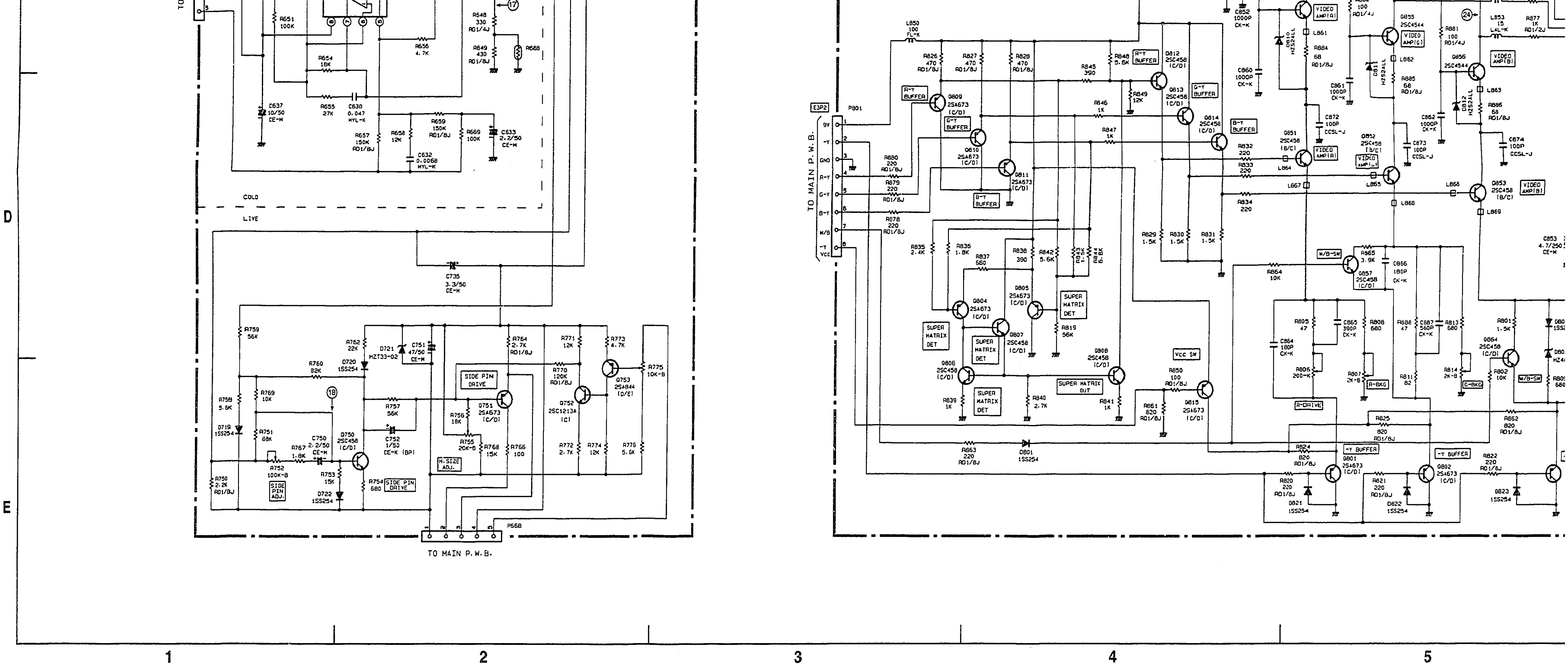
PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded
any of these components, read carefully the PRODUCT SAFETY NOTICE
through improper servicing.


1
2
3
4
5
A
B
C
TO MAIN P.W.B.
KEY-IN
POWER
GND
POWER
+5V
R/C OUT
FJ
FV
GND(VIDEO)
12V
V3
L3
R3
GND(AUDIO)
S0501
POWER
CH-UP
CH-DOWN
VOL-UP
VOL-DOWN
S0502
AVX
ZD0501 HZS12B2
ZD0502 HZS12B2
C0516 0.1 MYL-K
R0502 1K RD1/8J
R0516 1K RD1/8J
R0517
R0518
R0519
C0502 0.01 MYL-K
CP0501
GND 5V
REMOTE
R0504 1K RD1/8J
Q3801 2SC458 (B/C/D)
Q3802 2SC458 (B/C/D)
R3802 100 RD1/8J
R3807 3.3K
R3809 56K
R3811 1K
R3813 100 RD1/8J
R3804 1K
R3806 56K
C3801 10/16 CE-M
R3801 75 RD1/8J
ZD3801 HZS12A/B/C
R3803 1K
C3802 10/16 CE-M
R3808 2.2K
C3803 47/16 CE-M
C3804 10/16 CE-M
R3805 270K RD1/8J
R3810 270K RD1/8J
R3812 1K
ZD3802 HZS12A/B/C
C3805 10000P CK-K
⚠ J01
V3-IN
L/MONO 3 IN
R3-IN
CONTROL P.W.B. 35TX10B/CZ41
TO MG. FIELD P.W.B.
EY02
12V
PY02
LY01 100 LA-K
PY01
TO MAIN P.W.B.
Y OUT
Y IN
GND
RY01 1K
QY01 2SC458 (C/D)
RY02 1K
RY03 470 RD1/8J
RY04 470
CY01 470P CK-K
RY05 470
CY03 0.01 MYL-K
RY08 3.3K
RY10 18K
RY09 22K
CY06 150P CK-K
CY05 0.1 MYL-K
CY04 10/16 CE-M
CY02 470P CK-K
RY11 12K
QY02 2SC458 (C/D)
RY06 100
RY07 2.2K RD1/8J
CY07 100/16 CE-M
CY08 0.01 MYL-K
IY01 M51474L
NOISE REDUCTION
NR IN
CORING
DC BIAS
FREQ CORRENT
Y.HIGH FREQ
LP IN
GND
VCC
Y.OUT
YNR P.W.B. 35TX10B/CZ41
TO MAIN P.W.B.
GND
12V
EG
PG2
RMF1 5.6K
CMF1 10/16 CE-M
CMF2 100/16 CE-M
RMF2 330 RD1/8J
MAGNE
SIDE PIN P.W.B. 35TX10B/CZ41
⚠ I720 PC713F6
PHOTO COUPLER
COLD
LIVE
C634 1/50 CE-M
R664 82K
R665 56K
C631 47/16 CE-M
R670 2.2K
R671 68K
R647 1.8K
C636 2.2/50 CE-M
R666 33K
R667 680K RD1/8J
D627 1SS254
D626 1SS254
P658
TO MAIN P.W.B.
R653 56K
I621 uPC4558C
SIDE PIN AMP.
Q650 2SC458 (B/C/D)
SIDE PIN DRIVE
D628 1SS254
R652 56K
R663 27K
R651 100K
R648 330 RD1/4J
R649 430 RD1/8J
R656 4.7K
R658
R654 18K
C637 10/50 CE-M
R655 27K
C630 0.047 MYL-K
R657 150K RD1/8J
R658 12K
R659 150K RD1/8J
R669 100K
C633 2.2/50 CE-M
C632 0.0058 MYL-K
E3P2
P801
9V
-Y
GND
L850 100 FL-K
R825 470 RD1/8J
R827 470 RD1/8J
R828 470 RD1/8J
R845 390
R848 5.6K
R-Y BUFFER
Q812 2SC458 (C/D)
R849 12K
Q813 2SC458 (C/D)
G-Y BUFFER
R-Y BUFFER
Q809 2SA673 (C/D)
G-Y BUFFER
Q810 2SA673 (C/D)
R846 1K
R847 1K
Q814 2SC458 (C/D)
B-Y BUFFER
R832 220
R880 220
C851 100/16 CE-M
C852 1000P CK-K
R883 100 RD1/4J
C850 1000P CK-K
D810 HZS2ALL
Q854 2SC4544
VIDEO AMP(R)
L861
R884 68 RD1/8J
Q851 2SC458 (B/C)
VIDEO AMP(R)
C872 100P CCSL-J
L856 100 LAL-K
R851 8.2K RS3J
R852 8.2K RS3J
L855 100 LAL-K
R882 100 RD1/4J
Q855 2SC4544
VIDEO AMP(G)
L862
R885 68 RD1/8J
C861 1000P CK-K
Q852 2SC458 (B/C)
VIDEO AMP(G)
C873 100P CCSL-J
R853 8.2K RS3J
L854 100 LAL-K
L851 15 LAL-K
R875 1K RD1/2J
L852 15 LAL-K
R876 1K RD1/2J
L853 15 LAL-K
R877 1K RD1/2J
R881 100 RD1/4J
Q856 2SC4544
VIDEO AMP(B)
D812 HZS2ALL
L863
R886 68 RD1/8J
C862 1000P CK-K
C874 100P CCSL-J
HZS2ALL

CIRCUIT SCHEMATIC DIAGRAM OF 35TX10B/CZ41

PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.


3
4
5
6
A
B
C
TO MAIN P.W.B.
FV
GND(VIDEO)
12V
V3
L3
R3
GND(AUDIO)
Q3801 2SC458 (B/C/D)
Q3802 2SC458 (B/C/D)
ZD3801 HZS12A/B/C
ZD3802 HZS12A/B/C
C3805 10000P CK-K
J01
V3-IN
L/MONO 3 IN
R3-IN
CONTROL P.W.B. 35TX10B/CZ41
TO MG. FIELD P.W.B.
EY02
PY02
PY01
TO MAIN P.W.B.
Y OUT
Y IN
GND
QY01 2SC458 (C/D)
QY02 2SC458 (C/D)
IY01 M51474L
NOISE REDUCTION
HP IN
CORING
DC BIAS
FREQ CORRENT
Y-HIGH FREQ
LP IN
GND
VCC
Y-OUT
YNR P.W.B. 35TX10B/CZ41
TO MAIN P.W.B.
TO YNR P.W.B.
EG
PG2
PG3
QMF1 2SC1213 (C/D)
LMFC
MFC
SMF1
SMF2
HIGH ⟷ LOW
NORTH
NORMAL
SOUTH
MAGNETIC FIELD CORRECTION P.W.B. 35TX10B/CZ41
LIVE
R-Y BUFFER
G-Y BUFFER
B-Y BUFFER
Q809 2SA673 (C/D)
Q810 2SA673 (C/D)
Q812 2SC458 (C/D)
Q813 2SC458 (C/D)
Q814 2SC458 (C/D)
Q851 2SC458 (B/C)
Q852 2SC458 (B/C)
Q854 2SC4544
Q855 2SC4544
Q856 2SC4544
VIDEO AMP(R)
VIDEO AMP(G)
VIDEO AMP(B)
D810 HZS2ALL
D811 HZS2ALL
D812 HZS2ALL
P31
V1 35TX10B/A89AEJ15X01
FOCUS
TO FBT
TO FBT(T702)
E851
G856
G855
G854
G851
C856 2200P/2K
L871
P801
E3P2
9V
-Y
GND
P.W.B.
㉒
㉓
㉔



D
E
1
2
3
4
5
COLD
LIVE
TO MAIN P.W.B.
TO MAIN P.W.B.
SIDE PIN DRIVE
H.SIZE ADJ.
SIDE PIN ADJ.
SUPER MATRIX DET
SUPER MATRIX OUT
VIDEO AMP(R)
VIDEO AMP(G)
VIDEO AMP(B)
R-Y BUFFER
G-Y BUFFER
B-Y BUFFER
-Y BUFFER
W/B-SW
Vcc SW
R-DRIVE
R-BKG
G-BKG

- Since this is a basic circuit diagram, the value of the parts is subjec
- All DC voltage to be measured with a tester (100kΩ/V). Voltage tak

Circuit No.	Pin No.	Voltage VDC
I621	1	5.0
	2	5.0
	3	5.0
	4	0.0
	5	5.7
	6	5.7
	7	6.2
	8	10.9

Circuit No.	Pin No.	Voltage VDC
I720	1	11.0
	2	9.8
	3	0.0
	4	-56.0
	5	-36.0

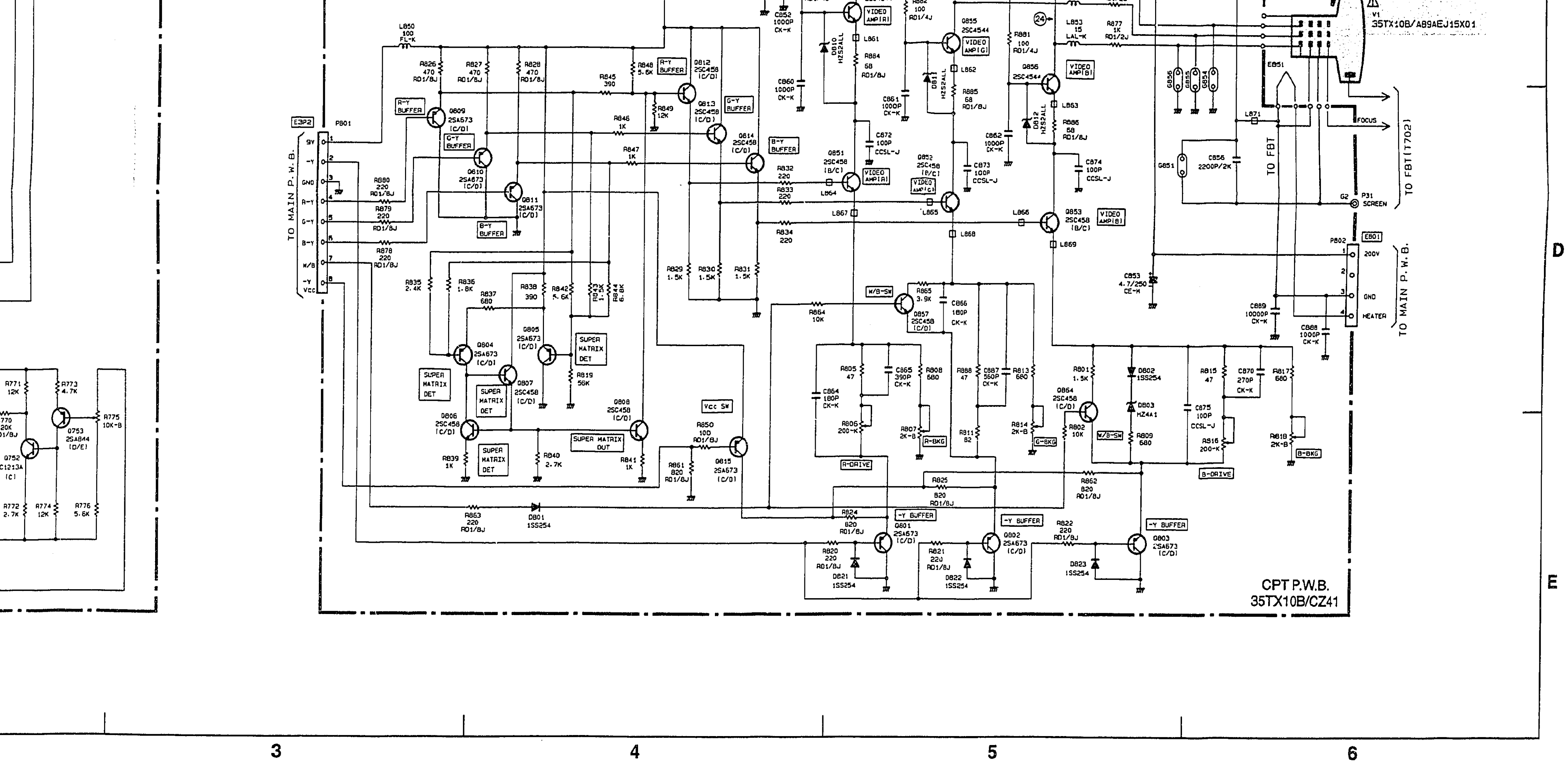
Circuit No.	Pin No.	Voltage VDC
Q650 Side P.	B	6.5
	C	9.8
	E	5.6
Q750 Side P.	B	-60.0
	C	-50.0
	E	-60.0
Q751 Side P.	B	-41.0
	C	-60.0
	E	-41.0
Q752 Side P.	B	-60.0
	C	-35.0
	E	-60.0
Q753 Side P.	B	-35.0
	C	-60.0
	E	-35.0

Circuit No.	Pin No.	Voltage VDC
Q801 CPT	B	4.0
	C	0.0
	E	4.0
Q802 CPT	B	3.8
	C	0.0
	E	3.9
Q803 CPT	B	4.0
	C	0.0
	E	4.0
Q804 CPT	B	6.0
	C	1.4
	E	6.4
Q805 CPT	B	5.8
	C	0.0
	E	6.5

Circuit No.	Pin No.	Voltage VDC
Q806 CPT	B	0.7
	C	1.4
	E	0.0
Q807 CPT	B	1.3
	C	9.0
	E	0.6
Q808 CPT	B	0.9
	C	6.0
	E	0.0
Q809 CPT	B	5.0
	C	0.0
	E	6.0
Q810 CPT	B	5.0
	C	0.0
	E	6.0
Q811 CPT	B	5.0
	C	0.0
	E	6.0
Q812 CPT	B	6.0
	C	9.0
	E	5.0
Q813 CPT	B	6.0
	C	9.0
	E	5.0
Q814 CPT	B	0.9
	C	9.0
	E	0.9
Q815 CPT	B	5.0
	C	3.9
	E	3.9

Circuit No.	Pin No.	Voltage VDC
Q851 CPT	B	5.0
	C	8.0
	E	5.0
Q852 CPT	B	5.0
	C	7.6
	E	4.7
Q853 CPT	B	5.0
	C	8.0
	E	5.0
Q854 CPT	B	1.5
	C	26.0
	E	1.5
Q855 CPT	B	1.2
	C	24.0
	E	1.2
Q856 CPT	B	1.2
	C	24.0
	E	1.2
Q857 CPT	B	4.5
	C	3.9
	E	3.9
Q864 CPT	B	4.6
	C	4.0
	E	4.0

Circuit No.	Pin No.	Voltage VDC
Q0501 Control 35v	B	0.0
	C	0.0
	E	0.0
Q3801 Control 35v	B	3.8
	C	12.0
	E	3.2
Q3802 Control 35v	B	3.6
	C	12.0
	E	3.2


V1
35TX10B/A89AEJ15X01
TO MAIN P.W.B.
TO FBT(T702)
TO FBT
FOCUS
P31 SCREEN
G2
200V
GND
HEATER
R-Y BUFFER
G-Y BUFFER
B-Y BUFFER
-Y BUFFER
VIDEO AMP(R)
VIDEO AMP(G)
VIDEO AMP(B)
SUPER MATRIX DET
SUPER MATRIX OUT
W/B-SW
Vcc SW
R-DRIVE
G-DRIVE
B-DRIVE
R-BKG
G-BKG
B-BKG
CPT P.W.B.
35TX10B/CZ41
D
E
3
4
5
6

- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.

Circuit No.	Pin No.	Voltage VDC
I621	1	5.0
	2	5.0
	3	5.0
	4	0.0
	5	5.7
	6	5.7
	7	6.2
	8	10.9

Circuit No.	Pin No.	Voltage VDC
I720	1	11.0
	2	9.8
	3	0.0
	4	-56.0
	5	-36.0

Circuit No.	Pin No.	Voltage VDC
Q650 Side P.	B	6.5
	C	9.8
	E	5.6
Q750 Side P.	B	-60.0
	C	-50.0
	E	-60.0
Q751 Side P.	B	-41.0
	C	-60.0
	E	-41.0
Q752 Side P.	B	-60.0
	C	-35.0
	E	-60.0
Q753 Side P.	B	-35.0
	C	-60.0
	E	-35.0

Circuit No.	Pin No.	Voltage VDC
Q801 CPT	B	4.0
	C	0.0
	E	4.0
Q802 CPT	B	3.8
	C	0.0
	E	3.9
Q803 CPT	B	4.0
	C	0.0
	E	4.0
Q804 CPT	B	6.0
	C	1.4
	E	6.4
Q805 CPT	B	5.8
	C	0.0
	E	6.5

Circuit No.	Pin No.	Voltage VDC
Q806 CPT	B	0.7
	C	1.4
	E	0.0
Q807 CPT	B	1.3
	C	9.0
	E	0.6
Q808 CPT	B	0.9
	C	6.0
	E	0.0
Q809 CPT	B	5.0
	C	0.0
	E	6.0
Q810 CPT	B	5.0
	C	0.0
	E	6.0
Q811 CPT	B	5.0
	C	0.0
	E	6.0
Q812 CPT	B	6.0
	C	9.0
	E	5.0
Q813 CPT	B	6.0
	C	9.0
	E	5.0
Q814 CPT	B	0.9
	C	9.0
	E	0.9
Q815 CPT	B	5.0
	C	3.9
	E	3.9

Circuit No.	Pin No.	Voltage VDC
Q851 CPT	B	5.0
	C	8.0
	E	5.0
Q852 CPT	B	5.0
	C	7.6
	E	4.7
Q853 CPT	B	5.0
	C	8.0
	E	5.0
Q854 CPT	B	1.5
	C	26.0
	E	1.5
Q855 CPT	B	1.2
	C	24.0
	E	1.2
Q856 CPT	B	1.2
	C	24.0
	E	1.2
Q857 CPT	B	4.5
	C	3.9
	E	3.9
Q864 CPT	B	4.6
	C	4.0
	E	4.0

Circuit No.	Pin No.	Voltage VDC
Q0501 Control 35v	B	0.0
	C	0.0
	E	0.0
Q3801 Control 35v	B	3.8
	C	12.0
	E	3.2
Q3802 Control 35v	B	3.6
	C	12.0
	E	3.2